Via E-mail (UpdatedCSOControlPlan@aecom.com)

October 30, 2026

Massachusetts Water Resources Authority
2 Griffin Way
Chelsea, MA 02150

Re: Draft Updated CSO Control Plan

Dear Project Partners,

The Charles River Watershed Association ("**CRWA**") is one of the country's oldest watershed organizations. For six decades, CRWA has advocated at the federal, state, and local levels to protect, preserve, and enhance the Charles River and its watershed through science, community engagement, and the law. This advocacy has dramatically improved the quality of water in the Charles River, fundamentally changed approaches to water resource management, and protected the health and prosperity of people and places within the watershed for current and future generations.

Although the Charles River is cleaner today than it has been in generations, our work is far from done. The Clean Water Act set the goal of making the Charles River clean enough for fishing and swimming always and forever. Massachusetts ratified that goal by setting water quality standards ("**WQS**") for the Charles River that establish primary and secondary contact recreation as "designated uses" that are protected under state and federal law. Any plan that accepts the continued discharge of raw sewage into the Charles River is fundamentally incompatible with those goals and the relevant law.

CRWA submits the following comments regarding the Draft Updated Combined Sewer Overflow ("**CSO**") Control Plan for Alewife Brook, Upper Mystic River, and Charles River (the "**Updated LTCP**"). As described in great detail below, CRWA *strongly opposes* the recommendation made in the Updated LTCP for the following reasons:

1. **The Updated LTCP fails to comply with the Clean Water Act ("CWA") and will result in the Charles River never coming into compliance with the state's WQS.** The CWA sets a national goal to eliminate the discharge of *all pollutants* into all jurisdictional waters, including the Charles River. Any plan that permits CSOs to continue indefinitely is inconsistent with that clear goal. CSOs are also incompatible with the state's WQS, which include boating and swimming as designated uses for the Charles River. Any plan that is not reasonably designed to restore and sustain those designated uses must be rejected. The Updated LTCP suggests that CSOs can persist because stormwater is a more significant source of pollution; this suggestion reflects a misunderstanding of the law. Both CSOs and

stormwater are sources of pollution and both must be addressed. Stormwater is already heavily regulated in the Charles River watershed by the MS4 permit, specifically Appendix F which will result in significant wet weather water quality improvements in the coming 10-15 years. The 25-year level of control ("**LOC**") tunnel alternatives for the Charles River will provide even greater control of stormwater, supporting compliance with both the CWA and the state's WQS.

2. **The cost-benefit analysis in the Updated LTCP is incomplete and misleading.** The Updated LTCP purports to be forward looking but the cost-benefit analysis is based on historic, not future, conditions and should be redone. The Updated LTCP for the Charles River will take longer to implement than the rainfall conditions used for modeling will be applicable. Alternatives should be evaluated on rainfall conditions that will be present post-construction when the projects are online and providing CSO control, not historic conditions or near-term predictions. The Updated LTCP entirely omits virtually all of the benefits that will come from a consistently clean river. Although these benefits may be hard to quantify, they are large and real and should be evaluated. Finally, the Updated LTCP acknowledges that eliminating CSOs is affordable. The difference between the recommended alternative and the 25-year LOC is less than $10 per month. The overall percentage increase from the baseline (no CSO work) to the 25-year LOC is only 5.3%, indicating that the CSO program costs are a very small proportion of MWRA's overall operation..

3. **The Updated LTCP does not adequately consider alternatives that may achieve a higher LOC at a lower cost.** The Updated LTCP essentially analyzes a single approach to higher levels of control (a large tunnel) and ignores other options that may be more effective, less expensive, or both. There is no option presented that maximizes CSO control through sewer separation augmented with storage as needed despite this being an effective solution. The potential role of green infrastructure is capped even though green technology, even when deployed at scale, has the potential to provide excellent value. Similarly, considering a regional approach to CSO and stormwater control could identify additional efficiencies, but this analysis was not done or not presented in a comprehensive way. The Updated LTCP should be revised to include a comprehensive assessment of higher LOC alternatives.

4. **The Updated LTCP is inconsistent with other well-established state priorities.** The state has established an ambitious and unambiguous policy that calls for reducing or eliminating CSOs, promoting climate resilience, and addressing environmental justice concerns. By allowing CSOs to continue indefinitely, the Updated LTCP is directly and conspicuously inconsistent with the state's priorities. In contrast, ending the CSO problem in the Charles River once in for all will not only result in a cleaner river, but will replace obsolete infrastructure that

is dangerously unprepared for increasingly severe storms while making all of our communities safer and healthier.

CRWA appreciates the level of work that the Massachusetts Water Resources Authority ("**MWRA**"), the City of Cambridge, and the City of Somerville (collectively, the "**Parties**") put into the development of the Updated LTCP. We submit these comments in the spirit of working together for a better, more modern, more innovative, and effective long term control plan for the Charles River. Our detailed comments highlight many areas in which the analysis is limited in a way that fails to capture the value of CSO elimination.

To support the development of these comments, CRWA engaged the engineering firm Geosystec to provide a third-party review of certain technical aspects of the Updated LTCP. Elements of their review are included in the body of the comments and are included in full in the attached memo. Geosyntec's input is based on review of the Updated LTCP and attendance at a July meeting with the Parties.

CRWA also engaged independent economist and financial analyst, Gail Coad, who has provided expert consultant services to evaluate Financial Capability Analysis ("**FCA**") in a large number of CSO cases. Gail provided review and input on the financial information presented in the Updated LTCP and supported the development of the comments included in this letter.

We strongly object to the recommendation of the 2050 Typical Year Alternative for the Charles and Mystic Rivers and Alewife Brook. We ask that the Final Updated LTCP include a recommendation to pursue an alternative, particularly one that includes GSI (13.CR 25-Year Tunnel + GSI), that meets the 2050 25-year LOC or achieves virtual elimination through sewer separation. In the Final Plan, we request any references to the Limited TY alternative be eliminated. This alternative is not a reasonable point of comparison for any alternatives analysis as it has already been rejected (see November 17, 2025 letter from MassDEP).

1. The Updated LTCP does not satisfy the requirements under the CWA or bring the Charles River into compliance with state's WQS.

The Updated LTCP claims to serve as a logical, step-by-step analysis that justifies the selection of CSO controls to meet WQS and protect designated uses, however, the logic is limited and flawed, resulting in recommendations that are also flawed. Despite claims of being forward-looking the Recommended Plan will result in conditions that will not meet WQS or support designated uses in the Charles River Lower Basin. Future climate conditions used in this planning process are only relevant through 2069, while the life of the infrastructure is anticipated to be from the mid-2060s to 2090 and beyond.

1.1 The Updated LTCP does not meet the Parties' obligations under the Clean Water Act.

The Updated LTCP does not meet the Parties' obligations under the Clean Water Act and does not include valid justification about why they would need more time to meet these obligations. CSOs in the Charles River can and should be brought to an end under the next long term control plan as they have been in other parts of Boston, and by other cities in the U.S. and internationally. We have achieved a 25-year storm (present day) LOC along our Boston Harbor beaches, the analogous 2050 25-year LOC should now be implemented in the Charles.

CSOs are regulated through a broad statutory framework, which includes the National Pollutant Discharge Elimination System ("**NPDES**") permitting program established under Section 402 of the CWA. Congress specifically addresses CSOs in Section 402(q), which requires every permit, order, or decree issued after December 21, 2000 for a discharge from a municipal combined storm and sanitary sewer to conform to EPA's 1994 CSO Control Policy ("**CSO Policy**"). The CSO Control Policy supplies the primary framework for determining what CWA compliance requires of combined sewer systems.

The CSO Policy identifies three principal CSO-control objectives: (1) ensuring that CSOs occur only as a result of wet weather; (2) bringing all wet-weather CSO discharge points into compliance with applicable technology-based and water-quality-based requirements of the CWA; and (3) minimizing the water-quality, aquatic-biota, and human-health effects of CSOs. If the recommended plan is implemented, remaining CSOs will continue to prevent attainment of applicable WQS and cause material water quality and public health impacts in the Charles River. The Updated LTCP, therefore, fails to achieve the CSO Policy's second and third objectives.

A utility operator cannot be exempt from meeting these obligations simply because substantial reductions have already occurred and further control is inconvenient or expensive. Moreover, the presence of other pollution sources does not make *additional* pollution from CSO acceptable. Consistent with the CWA's objective of restoring and maintaining the integrity of the Nation's waters and the CSO Policy's requirement of ultimate CWA compliance, the Parties must continue evaluating progressively more protective controls as conditions, technology, and financial capability permit. The purpose of CSO control is broader than simply reducing the number of overflow events. It requires continued progress toward minimizing the adverse effects of combined sewage and achieving the substantive requirements of the CWA.

While cost-effectiveness plays a role in determining the appropriate CSO-control strategy (i.e., how and when to eliminate CSOs), it is not a defense to overall CWA compliance (i.e., the goal of eliminating CSOs and achieving compliance with water quality standards). The selected controls must still ultimately comply with the CWA. If a less costly strategy cannot satisfy applicable water-quality requirements, cost alone does not authorize continued noncompliance.

This is particularly true where CSOs affect sensitive areas that are subject to more stringent control expectations. The CSO Policy directs permittees to give the highest priority to CSOs

affected waters with characteristics including primary-contact recreation, drinking-water intakes, shellfish beds, threatened or endangered species, and specially protected waters. In those areas, the CSO Policy directs permittees to eliminate or relocate CSOs wherever doing so is physically possible and economically achievable. The Charles River is a sensitive area designated for primary contact recreation, therefore, the Updated LTCP must call for all the CSO discharges to be eliminated unless doing so is not physically and economically possible. The Plan determines it is both physically and economically feasible.

Finally, the Updated LTCP states:

> The criterion most closely tied to attainment of recreational uses in a waterbody is bacteria. Alewife Brook, Upper Mystic River, and Charles River are designated in 314 CMR 4.06 as Class B waterbodies and have been denoted with a CSO qualifier, indicating the waterbodies are 'impacted by the discharge of combined sewer overflows; however, a long term control plan has not been approved or fully implemented for the CSO discharges'. This CSO qualifier acknowledges that it may not be practical to eliminate CSO discharges and reinforces the requirement to control CSOs to the maximum extent practicable consistent with the CWA and approved long-term control plans (as discussed in Section 2.2.2).

We strongly disagree with this statement and request it be removed from the final report. The CSO qualifier acknowledges the current existence of CSOs and the fact that the Charles River is not yet in compliance with its WQS, nothing more. To our knowledge, the Massachusetts Department of Environmental Protection ("**MassDEP**") has never concluded that elimination of CSOs on the Charles River is not practical. In fact, the variance issued by MassDEP that permits the Parties to discharge combined sewage into the river explicitly requires, "[a]n evaluation of the costs and water quality benefits of further CSO control alternatives, *up to and including elimination of CSO discharges*. Use of Green Infrastructure technologies shall be considered."[1]

The CSO Policy does not require elimination to only "the maximum extent practicable." That is an incorrect reading of the law and policy because other factors are relevant. In *United States v. City of Welch*, the district court approved a consent decree requiring the municipality to completely separate its combined sewer system and eliminate CSOs by a specified deadline. The City of Lebanon, New Hampshire provides a similar example. A federal consent decree required Lebanon to implement a long term control plan that ultimately eliminated all of its CSO outfalls through sewer-separation projects.[2] Instead, CSO policy requires a site-specific assessment of the receiving waters, applicable WQS and designated uses, the frequency and effects of remaining CSOs, available control technologies, costs and financial capability, and the effectiveness of alternatives.

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[1] Mass. Dep't of Env't Prot., *Final Determination to Adopt a Water Quality Standards Variance for Combined Sewer Overflow Discharges to the Lower Charles River/Charles Basin* (Aug. 30, 2024), https://www.mass.gov/doc/final-determination-to-adopt-a-water-quality-standards-variance-for-cso-overflow-discharges-lower-charles-rivercharles-basin/download.

[2] Consent Decree at 8, United States v. City of Lebanon, No. 1:09-cv-00180 (D.N.H. May 27, 2009).

1.2 Water quality analysis is misleading and understates the health risk of CSOs.

In Section 7, and elsewhere throughout the Updated LTCP, the Parties use modeling to present CSO bacterial loading and WQS annual attainment in the context of other sources of pollution. This analysis includes sections of the river immediately downstream of the Watertown Dam that are never impacted by CSOs but suffer from the poorest water quality in the lower basin due to upstream pollution. The cleanest sections of the river are the ones most affected by CSO. The use of this geographic area minimizes the effect of CSOs and casts the river as far from meeting WQS with CSOs playing a small role in an intractable problem. We strongly disagree with both this framing and conclusion.

Table 7-10 presents a summary of "Percent Annual Attainment" that indicates the Charles River meets WQS only 51% of the time. This finding, based on modeling, is misleading and inconsistent with results from CRWA's flagging data. Between 2020 and 2025, CRWA collected 589 samples at the river center across four locations from the North Beacon Street Bridge to the Longfellow Bridge (Figure 1). Replicating MWRA's analysis and using 410 MPN per 100 mL as a single sample threshold we can see that across all sites and over 6 years the Charles River met WQS between 78-95% of the time (Table 1). This time period encompasses both wet and dry sampling events and clearly illustrates that, using a comparable metric and real world data, the Charles River is much closer to meeting bacterial WQS than is suggested throughout the Updated LTCP.

Table 1: Annual attainment of the single sample maximum (410 MPN/100mL) for actual years.

Site	2020	2021	2022	2023	2024	2025	All	n
North Beacon Street Bridge (NBS)	86%	69%	89%	77%	82%	65%	78%	149
Anderson Memorial Bridge (LARZ)	90%	78%	100%	52%	85%	83%	81%	148
Boston University Bridge (BU)	84%	70%	100%	69%	85%	88%	82%	147
Longfellow Bridge (LONG)	90%	93%	96%	88%	100%	100%	95%	145

The MWRA collects bacterial water data quality from closely spaced monitoring stations that provide important context for understanding the impacts of CSOs. CRWA analyzed MWRA bacterial data from 2023-2025 that overlapped with EEA published records of CSO activations. Sampling data is matched with CRWA weather station and classified as "Wet" if there was a total of >0.25" in the preceding 48 hours. Data is classified as "CSO" if there was an upstream CSO event in the preceding 48 hours (e.g., station 2 has 0 CSO samples because it is upstream of all CSO outfalls). This data set includes 654 observations, 28% of samples (189) occur on "Wet" days and 7% of these samples (51) occur on 12 unique "CSO" days.

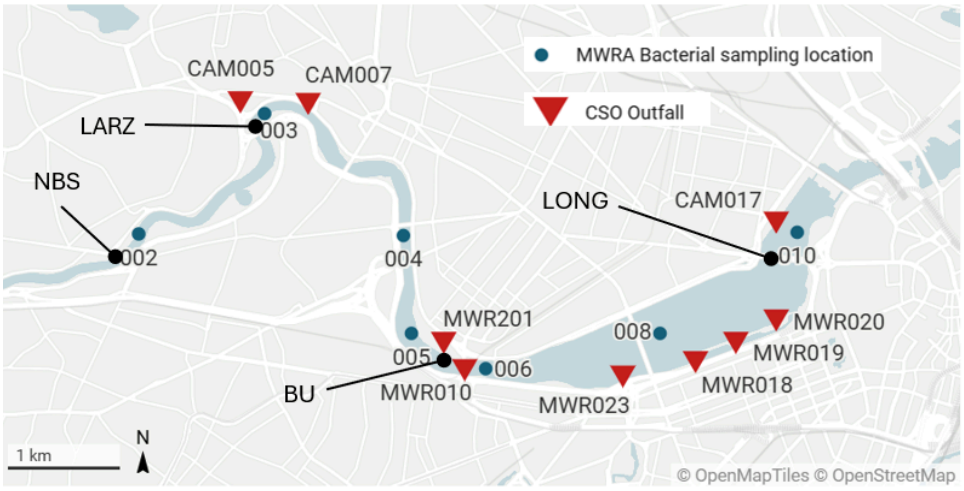


Figure 1: Outfall and Sampling locations in the Charles River's lower basin.

As the Charles flows from Watertown Dam toward Boston Harbor the river widens and slows. Bacterial pollution is naturally attenuated through solar disinfection, predation, and settling[3]. This is reflected in the MWRA's bacterial data which shows a decreasing trend from upstream to downstream stations under both dry and wet conditions (Figure 2). During dry periods, downstream river sections consistently meet the geometric mean WQS of 126 MPN/100 mL. For wet conditions a monotonically decreasing trend is observed with stations downstream of the Longfellow Bridge consistently meeting WQS even during wet weather. These results are consistent across data sets and with previous studies[4].

Against this trend we can begin to highlight the signature of CSOs. Figure 3 provides a comparison of bacterial concentrations from wet days with and without CSOs. Two main comparisons can be made: first CSO events have their own spatial pattern and do not show up equally in all stretches of the river, second CSO events are associated with much higher concentrations of bacteria with median values 3-5X higher for CSO samples than for samples from wet days without CSOs.

[3] Eleria, A. & Vogel, R. M. Predicting fecal coliform bacteria levels in the Charles River, Massachusetts, USA. *Journal of the American Water Resources Association* 1195–1209 (2005).
[4] Rome, M. B. Progress toward a swimmable Charles. (Northeastern University, Boston, Massachusetts, 2020). doi:10.17760/D20398264.

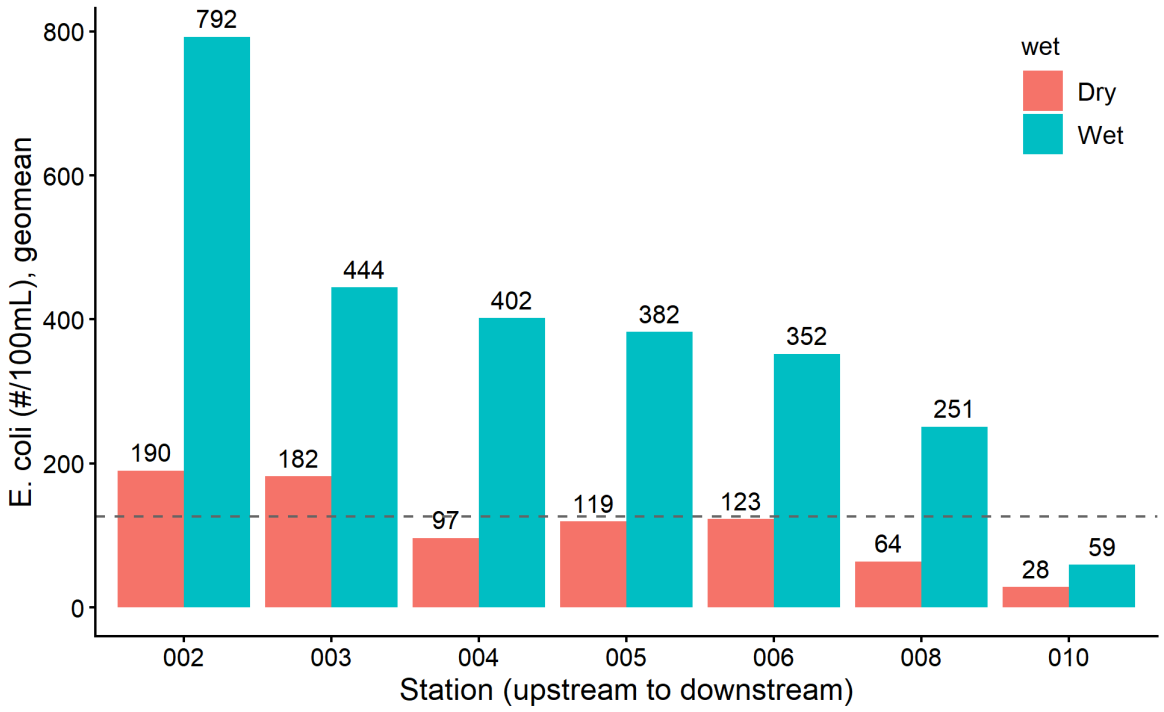


Figure 2: Geometric mean of MWRA sampling data 2023-2025. Sampling dates with >0.25" of precipitation in the preceding 48 hours are classified as "Wet." Dashed line is geomean WQS (126 MPN/100mL)

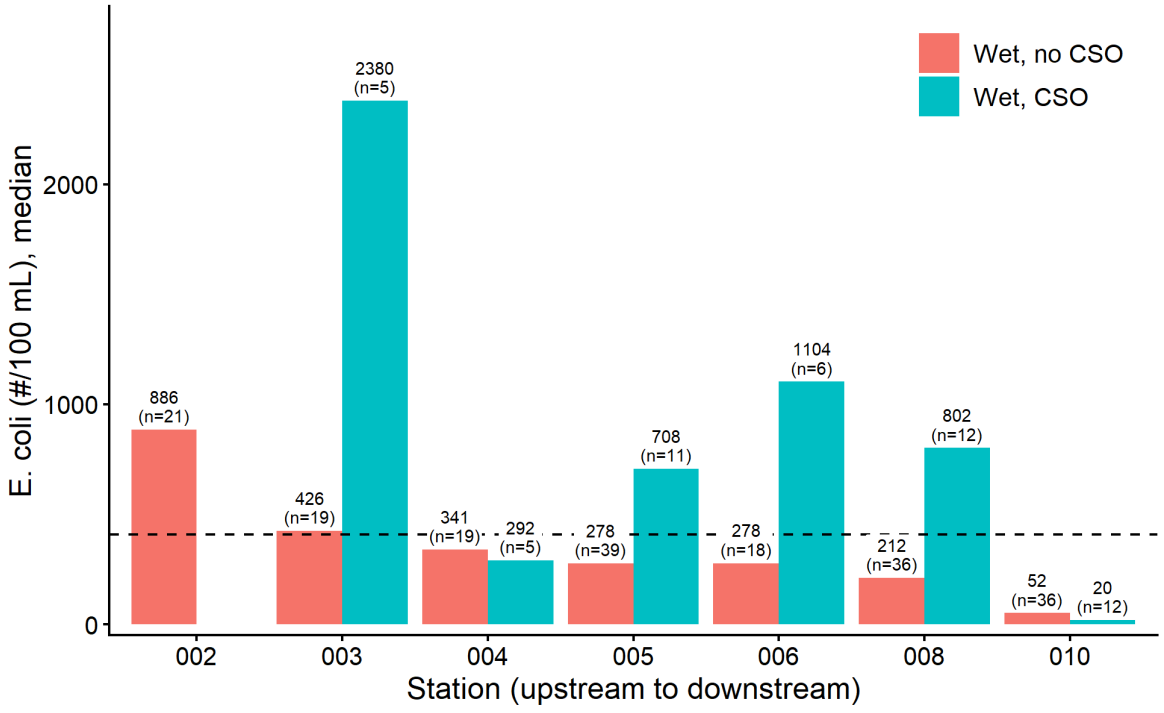


Figure 3: Median *E. coli* concentrations for wet weather samples split by whether samples were collected downstream of an active CSO occurring in the previous 48 hours.

CSOs are distinct from stormwater pollution in both the higher concentration of pollutants and in that those pollutants come directly from sewage. *E. coli* is an indicator organism but not all *E. coli* equally indicate the presence of human pathogens. *E. coli* in baseflow or stormwater can come from a range of non-anthropogenic sources including wildlife, petwaste, and organic material.[5] It can also reflect regrowth of biofilms within drainage systems.[6] Compared to CSOs, which contain human sewage, these non-anthropogenic bacterial sources pose less risk to human health.[7] Recent studies in Massachusetts clearly demonstrate that, even when compared to heavy rain events, CSOs are uniquely associated with increased emergency room visits for GI illnesses.[8,9] CSOs are a dangerous source of pollution to the Charles River and its millions of users. **We request that the water quality section(s) of the Final Plan reflect these real world conditions and acknowledge the material differences between stormwater and sewage derived pollution.**

1.3 Stormwater is already regulated.

The Parties' water quality analysis and water quality arguments are based on modeling of present conditions and existing stormwater bacterial loading. This analysis does not address the positive water quality impacts that will result from existing and draft stormwater regulations. Actions and investments required under the MS4 permit and the pending CII-GP will drive hundreds of millions of dollars in public and private investments in stormwater control well within the Updated LTCP implementation timeline. Collectively, these regulations mandate a 50% reduction in stormwater nutrient pollution by 2038 into the Charles, which will greatly improve water quality. They also require rigorous and ongoing investigation and elimination of sewage contamination into stormwater pipes (Illicit Discharge Detection and Elimination). Stormwater pollution, which is already regulated, should ***not*** be used as an excuse to do less on CSOs. To the contrary, the scale of these investments is an argument for a commensurate and complementary approach to control CSOs.

When the Parties discuss reductions in bacterial loading from improved management of stormwater (e.g., Section 13) they cite the 2002 USGS study "Potential Effects of Structural Controls and Street Sweeping on Stormwater Loads to the Lower Charles River, Massachusetts."[10] This study concludes that "[t]he upper estimated load reduction from combined street sweeping and structural controls, as a percentage of the total non-CSO load

[5] Ahmed, W., Hamilton, K., Toze, S., Cook, S. & Page, D. A review on microbial contaminants in stormwater runoff and outfalls: Potential health risks and mitigation strategies. *Sci. Total Environ.* **692**, 1304–1321 (2019).
[6] Hibbs, B. J. & Peralta, C. Biofilms, groundwater seepage, and internal controls on dry-weather bacterial loading in underground storm drains. *Water (Basel)* **18**, 396 (2026).
[7] Soller, J. A., Schoen, M. E., Bartrand, T., Ravenscroft, J. E. & Ashbolt, N. J. Estimated human health risks from exposure to recreational waters impacted by human and non-human sources of faecal contamination. *Water Res.* **44**, 4674–4691 (2010).
[8] Haley, B. M. *et al.* Association between Combined Sewer Overflow Events and Gastrointestinal Illness in Massachusetts Municipalities with and without River-Sourced Drinking Water, 2014-2019. *Environ. Health Perspect.* **132**, 57008 (2024).
[9] Jagai, J. S. *et al.* Extreme precipitation and emergency room visits for gastrointestinal illness in areas with and without combined sewer systems: An analysis of Massachusetts data, 2003-2007. *Environ. Health Perspect.* **123**, 873–879 (2015).
[10] U.S. Department of the Interior & U.S. Geological Survey. *Potential Effects of Structural Controls and Street Sweeping on Stormwater Loads to the Lower Charles River, Massachusetts*. https://pubs.usgs.gov/publication/wri024220 (2002) doi:10.3133/wri024220.

entering the lower Charles River downstream of Watertown Dam, was . . . 14 percent for total phosphorus, and 17 percent for fecal coliform bacteria." This study is outdated and does not reflect current scientific knowledge, professional practice, or regulatory consensus. Consequently, we strongly object to the use of this study to argue against the efficacy of load reductions through stormwater treatment.

The following are important caveats and context:

- The USGS study, and others like it, rely on compiled data from what is now called the International Stormwater BMP Database (this database was funded by the EPA but grew over time to include examples from beyond the US).
- Recent studies that reference this database find an average reduction in fecal indicator bacteria (results aggregated for *E. coli* and *Enterococcus*) of 57.4%.[11] This is higher than the removal efficacy cited in the USGS study.
- A critical limitation of this and existing studies is the focus on filtration-based structural controls. Biofiltration, swales, and even sand filters use media to trap and remove some pollutants while allowing runoff to continue through stormwater pipes into receiving waters. By contrast, infiltration-based controls are understood to wholly remove pollutants proportional to treated flow.[12] This is reflected by the current MS4 performance curves that, while focused on nutrients, document >90% removal rates for infiltration practices sized to store the first inch of rainfall.
- Importantly, the USGS study finds a *higher* potential for bacterial removal compared to nutrient removal. This is consistent with the other studies (Kerachian et al. reports mean phosphorus removal of 32.7%), and indicates that bacterial load reductions may be easier to achieve compared to nutrient load reductions.
- Finally, while the USGS estimates an upper limit of 17% for phosphorus load reduction through stormwater controls ("**SWCs**") this number is clearly out of step with existing stormwater regulations that require >50% phosphorus load reductions from Cambridge, Boston and communities across the Charles River watershed.[13]

Contrary to the Parties' implication that bacterial loading from stormwater cannot be meaningfully reduced through SWC implementation, the above evidence demonstrates that total maximum daily load ("**TMDL**") mandated nutrient load reductions to the lower basin and upper watershed will be accompanied by commensurate and proportionally larger reductions in bacterial loading.

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[11] Kerachian, R. *et al.* A meta-analysis of the impacts of best management practices on nonpoint source pollutant concentration. *Front. Water* (2024).

[12] Clary, J., Jones, J., Leisenring, M., Hobson, P. & Strecker, E. *International Stormwater BMP Database: 2020 Summary Statistics*. (2020).

[13] United States Environmental Protection Agency (EPA). General permits for stormwater discharges from small municipal separate storm sewer systems in Massachusetts. (2020).

The Parties' advance a similar and inaccurate argument related to mitigation of additional loading from sewer separation. Section 10.4.2 states: "EPA and MassDEP have limited technologies approved for stormwater treatment, and none of them can achieve major or full reductions in pollutants of concern. For example, there is no approved treatment technology that can remove 100% of the phosphorus from new stormwater flows." (page 10-39) Regarding the first part of this statement, CRWA is happy to work with the Parties, EPA and MassDEP to appropriately expand the management measures and technologies approved for phosphorus reductions credits in the MS4 permit. Regarding the second part of the statement, we do not agree this statement is accurate and request the Parties review Attachment 3 to Appendix F and revise this statement in the Final Plan.

In order to be complete, any discussion of water quality in the Final Plan must acknowledge generational investments being made to curb stormwater pollution into the Charles River.

1.4 Higher levels of control also address stormwater.

In 2013, the North Dorchester Bay Storage Tunnel was completed, creating 18.7 MG of storage. This facility not only provides a 25-year LOC against CSOs; it also eliminates stormwater runoff from up to a 5-year storm (~4 inches of rainfall in 24 hours). Each year, the storage tunnel fills and empties many times, preventing stormwater discharge under all but the most extreme conditions. This arrangement creates a high level of protection for public swimming at City Point and Pleasure Bay, which are among the cleanest urban beaches in the country, earning a "100% six-year average water quality rating" for the years 2020-2025.[14]

The higher LOC tunnel alternatives in the Charles River would provide similar opportunities for mitigation of stormwater pollution. The 5-year and 25-year CSO alternatives create respectively 73 and 134 MG of new storage capacity.[15] If properly configured, this is sufficient to capture and store the first inch of rain from respectively 2,687 and 4,945 acres of impervious area (Table 2). By definition, the 5-year and 25-year LOC will have extra capacity in a typical year, which is presented as a concern in the Plan.[16] However, using this storage capacity to reduce first-flush stormwater pollution and capture runoff from smaller storms *would* substantially improve water quality. This would dramatically decrease the bacterial impact of wet weather and, as was done for South Boston beaches, safeguard water quality for improved recreation and swimming.

[14] Save the Harbor / Save the Bay. (2026). Annual metropolitan beaches water quality report card (Based on Massachusetts Department of Conservation and Recreation 2025 beach season data). Save the Harbor / Save the Bay. https://www.savetheharbor.org/policy/water-quality

[15] Even the 14.7 MG of storage called for in the proposed 3.CR Hybrid 2 plan can likely provide meaningful stormwater mitigation.

[16] The largest storm in the typical year is smaller than these design standards.

Table 2: Summary of storage from proposed plans.

Level of Control	Alternative	Proposed storage (MG)	Equivalent treated acres*
Typical Year	3.CR Hybrid 2	14.7	540
5 Year	10.CR	73.0	2687
25 Year	12.CR	134.3	4945
25 Year	North Dorchester	18.7**	689

**Capacity of storage volume to capture 1" of runoff from a given drainage area*
*** Completed project 2013*

Stormwater diversion and storage is not only beneficial for mitigating bacterial pollution, this strategy has important co-benefits for reducing phosphorus loading and meeting existing MS4 reduction requirements. An analogous strategy is already being pursued by the City of Cambridge through "Sewer Deflection." In sewer deflection the first flush of stormwater from areas with separated pipes are routed into the combined sewer system to be treated at Deer Island instead of outfalling into the Charles River. Flow from the separated storm sewers are regulated via an orifice and weir structure and, during larger storms or higher flows when the combined system is at capacity, stormwater flows into the Charles through stormwater outfalls. This arrangement preserves system capacity while substantially reducing stormwater pollution loading to the river.

In their 2024 technical memorandum, Cambridge reported modeling results simulated over a 10 year period. During this period, first flush sewer deflection re-routed approximately 90% of all stormwater flows and mitigated 95% of both bacterial and nutrient loading in the Charles.[17] It is reasonable to expect that the substantial storage called for in the 5-year and 25-year LOC would enable a similar or even greater reduction in contaminated stormwater flows and pollutant loading.

The dual utility of CSO storage for mitigating stormwater pollution is not acknowledged or explored in the Updated LTCP. As demonstrated in South Boston and Cambridge's Sewer Deflection Study, CSO infrastructure can, at little additional cost, dramatically reduce bacterial and nutrient pollution. **We ask that the Parties perform appropriate analysis and directly address the potential of proposed CSO storage for reducing stormwater pollution. These impacts should be discussed in terms of both mass loading (e.g., kg-P/year) and within the context of water quality modeling (e.g., effect on downstream *E. coli* geometric means and Statistical threshold values during dry and wet weather).**

[17] DEVELOPMENT OF PERFORMANCE CURVES FOR PARTIAL SEWER SEPARATION THROUGH SEWER DEFLECTION SUBTASK 3B TECHNICAL MEMORANDUM: DEVELOPMENT OF, AND MODELING APPROACH FOR CONCEPTUAL GENERIC REPRESENTATION OF CITY OF CAMBRIDGE, MA SEWER DEFLECTION DEVICES
https://www.epa.gov/system/files/documents/2026-01/20240630-sewer-deflection-task-3b-performance-curves-final.pdf

2. The cost-benefit analysis in the Updated LTCP is incomplete and misleading as it does not properly evaluate post-construction performance in future conditions.

Far from being cost-beneficial, the Recommended Plan, achieving 0 CSOs in the 2050 typical year, represents a poor use of ratepayer funds. Under the proposed plan, billions of dollars will be spent to essentially tread water; maintaining the status quo for a short time only to have incremental progress negated by climate change a few years after the project is complete.

This Plan would implement upgrades over decades, by the time the work is complete the future looking precipitation models will already be obsolete.[18] Beyond 2050, rainfall volumes and intensities will increase further and as a result, CSO activation volumes will also increase exceeding the targets set in this Plan.

Conversely, if investments are made in the system today to truly eliminate CSOs, or effectively eliminate them through the 2050 25-year LOC or virtual elimination through sewer separation, we permanently address the issue, protecting the Charles from rising sewage discharges in a changing climate and saving billions of dollars in the future. The cost to fix this problem now is relatively small to the vast majority of ratepayers involved, and will never be less expensive than today. To spend ratepayer funds on partial upgrades that result in small and temporary improvements does not represent a good use of ratepayer funds when near-permanent solutions are available and possible.

2.1 The proposed alternative is not forward looking as it claims.

The Updated LTCP is rife with language celebrating the past efforts and achievements of the Boston Harbor cleanup. We share the Parties' enthusiasm for this work. Recent studies evaluating the value of the cleanup have concluded that the investment in infrastructure was more than justified and has been returned 10 to 20 times through a wide range of direct and indirect benefits including tourism, recreation, and increased property value.[19] Likewise progress made over the past 20 years to separate sewers and prevent overflows have resulted in considerable CSO reductions. We wholeheartedly applaud these past accomplishments; however, it is simply not possible to claim compliance when there is still raw sewage flowing into these rivers. The Updated LTCP must finish the job. We know that, as with previous efforts, ambitious and creative investment can drive outsized returns for quality of life, recreation, and ecosystem services.

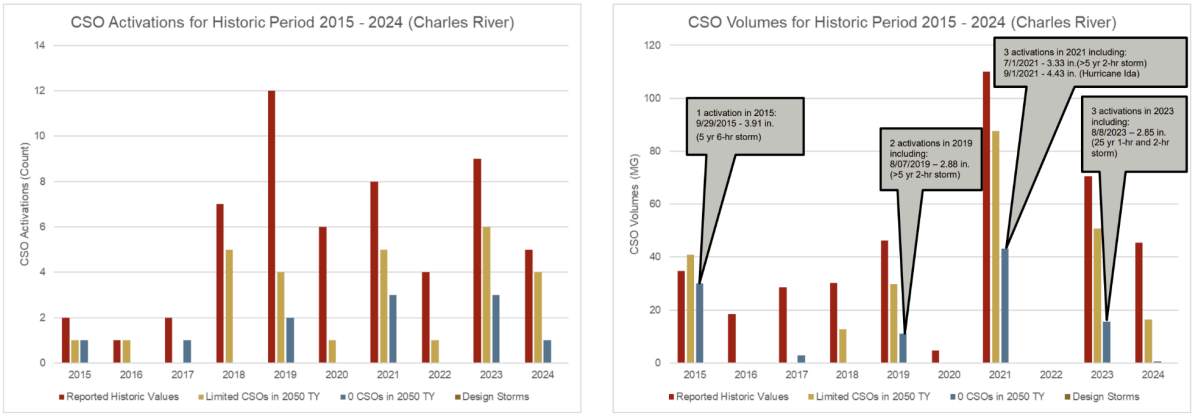
We laud the Parties for the use of a forward looking typical year and design storms in their analysis. We acknowledge this first-in-the-nation approach to CSO elimination work. Forward looking rainfall data is something CRWA has requested be included in this process during the

[18] Appendix B Typical Year Analysis; Table 1. Draft Recommended Plan Charles River Estimated Duration

[19] Jin, D., Watson, C., Kite-Powell, H. & Kirshen, P. Evaluating Boston Harbor cleanup: An ecosystem valuation approach. *Front. Mar. Sci.* **5**, (2018).

variance renewal comment periods for multiple cycles and we acknowledge that commitment has now been met.

Despite the inclusion of a 2050 rainfall analysis, however, the final conclusion and recommendations are not, in fact, forward looking. As demonstrated in Figure 10-8, a 10 year modeled analysis of performance in past conditions, the period 2015 to 2024, is used to evaluate the Recommended Plan, although this infrastructure will come online roughly 50 years later. The figure shows that if the Updated LTCP had been in place over the 10 year period from 2015 to 2024, overflows to the Charles River would have still been a semi-regular occurrence, occurring 6 out of 10 years. During this period the Lower Charles region was in a drought for a total of 30 months, or 25% of the time.[20] This means that the proposed $1.3 billion price tag for the 2050 Typical Year plan would still result in CSOs in 6 out of 10 years, even during significant periods of drought. In 2021, overflow volumes would have exceeded 40 million gallons for the year.



Note: No CSO activations (and no CSO volume) predicted during this 10-year period for the 5-year and 25-year levels of control ("design storms").

Figure 10-8. Modeled Performance for 2015-2024 Period in Charles River

The description of rainfall in 2015-2024 does note that, "none of the storms in the 10-year period fully matched the characteristics of the 2050 5-year storm (5.3 inches in 24 hours) or the 2050 25-year storm (7.8 inches in 24 hours). As a result, the 10-year period does not provide differentiation in the performance of the alternatives sized for the 2050 5-year versus the 2050 25-year LOCs". Both the 0 CSOs in 5-year and 25-year 2050 plans would have resulted in no activations and no overflow volume during this time period, representing the efficacy of these alternatives in virtually eliminating CSOs to the Charles.

We request that this performance analysis be updated for future rainfall conditions that are representative of the real-world conditions and natural precipitation variability expected to exist when this Plan will be in effect. Given the 2050 rainfall scenarios only reasonably represent conditions up to 2069 and construction in the Charles River system is likely to be

[20] Drought Declaration in the Charles River lower basin area 2015-2024 include: June 2016 - March 2017 (10 months); May 2020 - November 2020 (7 months); March 2021 (1 month); May 2022 - December 2022 (8 months); and September 2024 - December 2024 (4 months).

complete in the 2060s or later, we request the use of 2070-2100 rainfall conditions.[21] We also request that this rainfall scenario be presented for public review as was previously done.

The Updated LTCP also uses the logic that in future climate conditions "the system does not perform as designed, resulting in sewer backups, SSOs, and other sources of contamination," as a means to justify not investing in climate resilient CSO infrastructure. This is similar to the Parties' water quality argument that it's already dirty, so we should not do anything else. The claim that the system will already be overwhelmed by climate change and therefore forward looking infrastructure investments are futile is concerning and does not align with what Somerville and Cambridge are doing in Somerville Climate Forward and the Resilient Cambridge Program. Typically, closed drainage systems are designed to function safely without flooding during a 10-year storm.[22] Safeguarding system performance in a changing climate will require dozens of large and small projects over the coming decades and much of this work is already underway. CSO controls and additional storage should be planned to compliment needed system upgrades. These planning efforts should be integrated and will likely result in efficiencies and cost savings not yet identified in the Updated LTCP.

The Parties need to provide more information with respect to how they intend to address system capacity in the future. The Parties should also numerate the benefits of increasing system capacity through implementation of the 2050 25-year LOC proposal or full sewer separation. We request this analysis be included in the Final Report.

Technical consultants Geosyntec detail this limitation of the Updated LTCP in the attached memo stating:

> Projected system-wide hydraulic limitations during large storms warrant further evaluation before concluding that 25-year CSO controls would provide limited benefit. The conclusion about system-wide failure in the sewer system during large storms is based on the baseline conditions. It is unclear how the proposed alternatives at various LOC (including distributed storage, real-time control, or sewer separation) would impact the capacity throughout the system, as these components could affect how and where the system surcharges. *See* Geosyntec Memo dated October 13th, p.8.

Similar to the CSO volume and activation performance analysis, there is an attempt to quantify water quality and recreational benefits based on a historic 10 year period. This also discounts the benefits of additional control in a changing climate. Had the Parties proposed the 2050 TY LOC to be completed in 2015 as part of the initial Long Term Control Plan this would have been a relevant analysis but this plan will be providing control in a much different time period, likely

[21] Massachusetts Climate Change Projection dashboard includes a 2070 and 2090 timeframe, Cambridge Flood Viewer includes estimates for a 2070 timeframe.

[22] MassDOT recommends the use of a 5 and 10 year storm for drainage design on urban local and arterial roadways with a 50 year storm for "depressed sections where ponded water can only be moved through the storm drain system." MassDOT Project Development and Design Guide (2006). https://www.mass.gov/info-details/pddg-chapter-8-drainage-and-erosion-control

2070-2100. If this is truly a forward looking plan, benefits must be evaluated based on accurate post-construction conditions. Furthermore, the Charles River, which has millions of people recreating on it each year and many more recreating and living adjacent to it, should have zero days with an active CSO in a "typical" decade. Table 10-24 indicates that 10 CSO closure dates would be a likely minimum if the Recommended Plan is implemented, this is unacceptable. The only appropriate level of control for this well-utilized and sensitive waterway is virtual elimination. CSOs should only occur during very extreme rainfall events.

Along the Boston Harbor beaches and in the Neponset River, MWRA chose to make the investments to fully eliminate or virtually eliminate CSOs. Other cities, such as Minneapolis and St. Paul chose to virtually eliminate CSOs in their Long-Term Control Plans, and while we acknowledge that each system is unique and may not be directly comparable, the Twin Cities have not experienced a CSO since 2010. The same level of control should be required in the Charles.

Finally, the initial recommendation from the Parties was for the Limited CSOs in the typical year LOC. In real world terms this would have resulted in *an increase* in raw and undertreated sewage entering the Charles because of climate change. This demonstrates that in practice the Parties did not prioritize making improvements relative to climate change. Only due to a large and vocal public outcry and interjection from MassDEP was a change made to recommend the 2050 TY plan, nevertheless this earlier action is illustrative of the backward looking nature of the analysis. This counters the claim that the Partners were dedicated to "achieving a cleaner, healthier future for the receiving waters and the communities that use and enjoy them (ES-3)."

We request that either the team recommend virtual elimination through the 2050 25-year storm plan or sewer separation and invest fully in a climate resilient plan; or update the 10 year modeled performance analysis using a future time period representative of the natural variability expected in the timeframe when construction is complete, 2070-2100, in place of the 2015-2024 time period.

2.2 The cost-benefit analysis is misleading.

Section 10 of the Updated LTCP presents an evaluation of CSO Control Alternatives, however, the evaluations metrics are in many cases either limited or the wrong metrics for evaluation of the alternatives, particularly in the age of climate change. We disagree with the cost-benefit analysis presented in 10.4.1.4 as a justification for the selection of the 2050 TY LOC. We again object to the use of the 2015-2024 time period. The costs and benefits are not being incurred or realized in 2015-2024.

The cost benefit metrics are extremely limited. The only metrics for improvement compared to costs are volume and activation reductions measured in a historical context. This omits a vast array of benefits likely to occur from this work, benefits that have been realized from previous CSO work. There is no analysis of public health benefits, such as medical cost savings or reduction in employee sick days or individuals avoiding emergency room visits. There is no

analysis of economic benefits, despite acknowledgement of the economic benefits of CSO work to date. There is no analysis of the ecosystem services benefit potential. There is no analysis of potential flood reduction benefits.

Other cities have taken more expansive and holistic approaches to consider how required CSO work can provide additional co-benefit to their residents and economies.[23] Considering public health, jobs and economic impacts, flooding, air quality, and other metrics that affect day to day quality of life in their communities. We request the Parties reframe this effort to determine how they can get the highest return on this infrastructure investment with respect to public health, air and water quality, flood mitigation, system capacity and climate adaptation, and economic considerations, and include these metrics in the cost benefit analysis in the Final Plan.

Additionally, the Updated LTCP does not present a complete and accurate picture of the benefits of CSO elimination in the age of climate change. In figure 10-9, the team presents a cost-benefit analysis for the various levels of control, which is based on past rainfall data. The team uses the same time period discussed above 2015-2024, to compare the CSO reduction benefits of these options. This is a misleading and inappropriate metric to use when assessing plans that purport to be ***forward looking***. If a product developer developed a product designed for small children and then assessed its potential benefits on teenagers, the product would very likely look unattractive and potentially useless. That is analogous to what has been done here.

In the Charles River, both the 0 CSOs in 5-year and 0 CSOs in 25-year have 100% CSO activation reductions during this time period. These are distinctly different plans with different projects, different price tags, and different levels of control, nevertheless, the evaluation presented in Section 10.4.1.5, makes them look exactly equal other than their costs. An updated evaluation system is needed in the Final Plan that distinguishes benefits at higher levels of control.

As shown in Figure 10-8 of the Updated LTCP, if the proposed alternative (2050 TY) work had been completed in 2014, the subsequent 10 years from 2015 to 2024 would have only 4 years with 0 CSOs, and 6 years ***with*** sewage discharges. The work was not done in 2014, and instead will likely be done in the 2060s.[24] If we assume the forward looking rainfall conditions in the 2050 typical year extend out to 2069 as the Parties indicate, the best case scenario results in 9 years of no CSOs 40% of the time. Doing the math, this proposal amounts to spending $1.3 billion to get approximately 4 years with no CSOs, before the improvements are erased by climate change. While we welcome any CSO free years, this does not maximize benefit for the cost but this fact is being obscured by this backward looking analysis.

The inclusion of Figure 10-10, is illustrative of the theme that past accomplishments should negate future work. There is no question that the investment in the 2006 LTCP was worth the cost, studies have shown this to be true. This does not excuse the Parties from coming into

[23] A Triple Bottom Line Assessment of Traditional and Green Infrastructure Options for Controlling CSO Events in Philadelphia's Watersheds Final Report. https://www.epa.gov/sites/default/files/2015-10/documents/gi_philadelphia_bottomline.pdf

[24] Page 10-44 estimates 28-33 years as the duration of Alternative 4.CR Hybrid 3, estimating construction start date to be 2030-2033 range

compliance with the Clean Water Act by performing this second round of long-term control plan implementation. EPA's Combined Sewer Overflow Policy is designed to give cities and utilities extended periods of time to bring their systems into compliance, it is expected that the early work will be the proverbial low hanging fruit resulting in the largest reductions for the lowest cost. The impact of the initial LTCP work cannot be used to justify recommendation of an inadequate Recommended Plan. The initial LTCP work fell short of eliminating CSO in the Charles, requiring the development of the Updated Plan. Figure 10-10, Table 10-26 and associated discussions should be moved to an appendix as information relevant from a historical interest perspective, but not relative to this planning process.

We request that either the final plan recommend the 2050 25-year storm or sewer separation plan or update the cost-benefit analysis using a future time period representative of the natural variability expected in the timeframe when proposed projects are providing CSO control (2070-2100).

We further request the analysis be updated to consider the cost of investing in outdated infrastructure that is obsolete by the time it is complete. We request the analysis be updated to consider the potential costs of a third round of CSO construction projects starting in the 2060s, when CSOs as demonstrated here would continue to be a regular occurrence, compared to making the investments now to solve the problem.

Finally, we request a much more holistic view of the benefits of CSOs investments including: flood mitigation, ecosystem services, water quality in future conditions (both rainfall and MS4 implementation), and public health.

2.3 Higher levels of control are affordable.

As noted above, CRWA hired an independent economist and financial analyst who has provided expert consultant services evaluating Financial Capability Assessments (FCAs) in a large number of CSO cases. Our expert has supported our review and development of these comments which are based on both the Updated LTCP and the FCA documents included in the appendix. Overall, our expert found that the FCAs were generally complete, although details of certain analysis were not presented. We have highlighted those areas and requested that the details be included in the Final LTCP.

Each of the Parties conducted an Alternative 1 FCA Analysis and found the CSO control work at all levels of control to be "Low Impact." This supports the selection of a virtual elimination LOC (2050 25-year or sewer separation) as the only logical next step of CSO control work as it brings the Parties into compliance with the Clean Water Act and is financially feasible on a typical engineering schedule. The tables below from the FCAs document the "Low Impact" results in the MWRA, Cambridge and Somerville.

Table 11-3. CSO Control Scenario Summary

Alternative	Cost Summary		Regional FCA Results				
	CSO Control Cost (Millions)	Total Annual Cost Per Household	Residential Indicator	FCI Score	LQPI Score	Expanded FCA Matrix Results	EPA FCA Guidance Implementation Schedule
Baseline[3]	$0	$1,003	0.82%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
Limited 2050 TY	$329.6	$1,025	0.84%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 TY	**$763.7**	**$1,053**	**0.87%**	**2.8**	**2.8**	**Low Impact**	**Normal Engineering / Construction Schedule**
Full Sewer Separation	$1,853.7	$1,125	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 5-YR	$1,727.4	$1,116	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 25-YR	$2,273.1	$1,152	0.95%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule

Note:
Results presented in table reflect use of 2023 ACS 5-year data.

Table 11-12. City of Cambridge Expanded Financial Capability Assessment Matrix for the Baseline, Limited 2050 TY, and 2050 TY Capital Plans

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	**Low Impact**	Low Impact	Medium Impact
Mid-Range	Low Impact	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

Table 11-13. City of Cambridge Expanded Financial Capability Assessment Matrix for Full Sewer Separation, 2050 5-Yr, and 2050 25-YR Capital Plans

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	Low Impact	Low Impact	Medium Impact
Mid-Range	**Low Impact**	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

Table 11-19. City of Somerville Expanded Financial Capability Assessment Matrix for the Baseline, Limited 2050 TY, 2050 TY, 2050 5-YR, and 2050 25-YR Capital Plans

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	**Low Impact**	Low Impact	Medium Impact
Mid-Range	Low Impact	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

Table 11-20. City of Somerville Expanded Financial Capability Assessment Matrix for the Full Sewer Separation Capital Plan

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	Low Impact	Low Impact	Medium Impact
Mid-Range	**Low Impact**	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

2.3.1. MWRA FCA

Assessment Results

Overall, MWRA's FCA is thorough. It provides a good level of detail, such as the inclusion of the community by community analysis. Detailed comments are included below, but the bottom line conclusion from the MWRA FCA is that the program is affordable at all levels of control. Communities in the MWRA system have strong financial health overall as demonstrated by the Financial Capability Indicators. MWRA and all the service area communities have strong bond ratings. All but one community are strong or mid-range for the debt burden indicator. The MHI for most of the communities is strong with seven communities rated as mid-range. The property tax burden indicator is strong across all communities. Disappointingly the property tax collection rate indicator is more of a mixed bag, with 5 communities, including Somerville, resulting in weak ratings. The Financial Capability Score Overall regional service area result, using a population weighted average, is "Strong" demonstrating the overall healthy financial position of communities in the greater Boston region.

The Final Expanded FCA Matrix result for the MWRA region is "Low Impact" for all levels of control (Table 11-3 from Draft ULTCP). The 2050 25-year LOC is rated "Low Impact", the same rating as the recommended alternative. The incremental change from the preferred alternative to the 2050 25-year virtual elimination LOC is small for the Residential Indicator (cost per

household divided by median household income for the service area), moving from 0.87% to 0.95%.

Table 11-3. CSO Control Scenario Summary

Alternative	Cost Summary		Regional FCA Results				
	CSO Control Cost (Millions)	Total Annual Cost Per Household	Residential Indicator	FCI Score	LQPI Score	Expanded FCA Matrix Results	EPA FCA Guidance Implementation Schedule
Baseline[3]	$0	$1,003	0.82%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
Limited 2050 TY	$329.6	$1,025	0.84%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 TY	**$763.7**	**$1,053**	**0.87%**	**2.8**	**2.8**	**Low Impact**	**Normal Engineering / Construction Schedule**
Full Sewer Separation	$1,853.7	$1,125	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 5-YR	$1,727.4	$1,116	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 25-YR	$2,273.1	$1,152	0.95%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule

Note:
Results presented in table reflect use of 2023 ACS 5-year data.

Table 8-5. CSO Control Scenario Summary

Alternative	Cost Summary		Regional FCA Results				
	CSO Control Cost (Millions)	Total Annual Cost Per Household	Residential Indicator	FCI Score	LQPI Score	Expanded FCA Matrix Results	EPA FCA Guidance Implementation Schedule
Baseline*	$0	$1,003	0.82%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
Limited 2050TY	$329.6	$1,025	0.84%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050TY	$763.7	$1,053	0.87%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
Sewer Separation	$1,853.7	$1,125	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 5-yr	$1,727.4	$1,116	0.92%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule
2050 25-yr	$2,273.1	$1,152	0.95%	2.8	2.8	Low Impact	Normal Engineering / Construction Schedule

*Baseline CSO Control alternative represents existing cost/impact information if no CSO controls are implemented

The FCA Matrix results have minor variations in terms of impact for the various CSO control scenarios. There is more variability in the Residential Indicator but no communities with High Impact cost per household (Table 8-6). Page 8-4 of the MWRA FCA states:

> Despite the differences between the cost of the different CSO controls, the Residential Indicator scores and the Expanded FCA Matrix Results do not significantly vary, with only five more communities falling into the medium impact category (Table 8-6 below) for the Residential Indicator between the lowest and highest cost scenarios. There is also no change amongst the Expanded FCA Matrix Results for Service Area Communities, with only four communities that fall into the medium impact category under every cost scenario.

Table 8-6. CSO Control Scenario Impact Results

Alternative	Residential Indicator Results for Service Area Communities			Expanded FCA Matrix Results for Service Area Communities		
	Number of Communities with Low Impact	Number of Communities with Medium Impact	Number of Communities with High Impact	Number of Communities with Low Impact	Number of Communities with Medium Impact	Number of Communities with High Impact
Baseline*	37	6	0	38	3	1
Limited 2050TY	34	9	0	38	4	1
2050TY	33	10	0	38	4	1
Sewer Separation	29	14	0	38	4	1
2050 5-yr	31	12	0	38	4	1
2050 25-yr	29	14	0	38	4	1

We agree with MWRA's conclusion that there is minimal difference in impact across the various levels of control. The expanded FCA Matrix Results show 4 communities are Medium Impact for all of the proposed alternative scenarios. Three of these communities are Medium Impact for the Baseline alternative. One community is High Impact in all CSO scenarios, including the Baseline.

Rate Impacts

MWRA's household rate impact analysis (Table 11-3) states that the 2050 25-year virtual elimination plan will cost MWRA ratepayers under $100 per household per year when compared to the the preferred alternative (0 CSOs in TY) in current year dollars. As noted above the preferred scenario will be outdated by the time construction is complete, with the potential benefits erased by climate change. This cost differential (in current dollars) equates to approximately $8/month for a sewage-free river and is not unreasonable or burdensome for the vast majority of households; this is the cost of one coffee and bagel per month. This investment will end the problem, not be an investment in outdated infrastructure.

We note that MWRA did not do any detailed financial modeling to evaluate the potential impacts over time and taking into account factors such as growth and inflation of costs. However, they did prepare forward-looking calculations showing the impact of inflation and debt service on the ultimate annual bill in 2050. These calculations are based on reasonable assumptions (2.5% annual inflation and 30 year 3.0% bonds). In section 9-2 MWRA calculates that the annual bill in 2050 for the CSO 25-year scenario will be $2,462, as compared to $2,380 for the CSO 2050 TY preferred plan. So even when taking into account adjustments for future inflation and bond financing, the difference in the 2050 annual bill between the 2050 TY and the CSO 25-year scenario is only $82 per year. This difference is actually slightly lower than the $99 difference in the FCA calculations based on current year dollars.

The overall percentage increase from the baseline (no CSO work) to the 25-year scenario is 5.3%, indicating that the CSO program costs are a relatively small proportion of MWRA's overall

operation. CSO work should be treated exactly like all other investments and necessary upgrades to this regional system. This work is not optional and it is not specific to select communities, it is regional work. All members of the MWRA water and sewer service area benefit from the existence of this expansive system; maintaining the system, ensuring it is in compliance with federal law, and increasing the resiliency of the system to a changing climate are shared responsibilities. The alarmist discussion of future costs does not take into account likely increases in income and growth in this region. As occurred with the Boston Harbor cleanup, eliminating CSOs will be a further driver of economic growth for all of greater Boston.[25]

Impact to Low Income Residents

Table 11-8 demonstrates that Massachusetts, like the majority of our nation, has two economies – one for those who are thriving and one for low income populations. A phenomenon known as the "K-shaped" or two track economy is well documented in the press, conversations and today's political climate, but not acknowledged in MWRA's analysis.

The data presentation in Table 11-8 appears to communicate that almost 52% of the lowest quintile households in the service area experience a Medium to High Impact, ***if absolutely no CSO work is done.*** This is certainly concerning and an issue that MRWA should be working with their communities and the state to address. When CSO work is factored in the percentages increase to 56% or 57% depending on the LOC. This should also be addressed, but this is not the core of the problem. Presenting CSO work as the driver of burdensome water and sewer rates is not supported by this data and appears to be a distraction and mis-direct for not addressing the cost impacts of water and sewer rates on low income households. As noted, LTCP proposed CSO work is a very small percentage of these costs.

The text highlights: "When looking only at the RI metric, even before additional CSO requirements (i.e., Baseline), about 72% of lowest quintile households in the MWRA service area experience a High Impact." *(page 11-11).* This is a problem that MWRA, service area communities and the state should address. Solutions that help low income families struggling to pay water and sewer bills under the baseline conditions will also help these families pay the small additional cost of CSO work. This concerning reality should be dealt with as a policy matter but not the driver of selection of the CSO LOC. We note that Census Median Household Income (MHI) measure does not include the accounting of non-cash benefits available to lower income residents and therefore may not fully capture support currently being provided.

The EPA CWA FCA Guidance document (2024) explicitly addresses impacts to low income residents by advocating a suite of water affordability tools:

> "Many communities are implementing a variety of tools to assist low-income customers. These programs can include bill discount programs, arrearage forgiveness, and emergency assistance. Additionally, some utilities seek to distribute revenue

[25] Jin, D., Watson, C., Kite-Powell, H. & Kirshen, P. Evaluating Boston Harbor cleanup: An ecosystem valuation approach. *Front. Mar. Sci.* **5**, (2018).

> responsibilities equitably within customer classes. Some of those programs include nontraditional rate structures that are designed to send a more precise pricing signal or to approach the economics of water service differently. EPA encourages the establishment of these innovative programs that help households address issues with affordability and help protect public health throughout the community."

EPA argues that "water affordability programs can allow utilities to meet specific customer needs while also meeting the utility's financial needs and obligations." The need to protect the most vulnerable ratepayers is real, but presently tools are left unexplored. EPA encourages entities submitting plans to explore the use of these tools in relieving the impact of rate changes on the most vulnerable and to submit the analyses as part of their FCA presentations. In our reading of the Updated LTCP this is not included in the analysis. We request that the Partners address this EPA guidance in the Final Plan. Ultimately, we sincerely hope that the situation for low income residents in Massachusetts can be addressed including the availability of Customer Assistance Support and other available services.

Another reality of today's economy not acknowledged in the Plan is the impact and burden of medical bills as a driver of debt and poverty[26]. As noted above, CSOs have been shown to send residents living nearby to the emergency room for gastrointestinal concerns. The Charles, Mystic and Alewife variance waters are all bordered by environmental justice communities. Low income residents will feel the impact of an emergency room visit far more than their high income neighbors.

MWRA suggests that an implementation schedule of 20 or more years, "is warranted to minimize hardships to low-income households and financially stressed municipalities within MWRA's service area." MWRA specifically references Chelsea, which is a High Impact community, and the fact that MWRA prepared a Financial Alternatives Analysis, which could support an additional 5 years in a schedule. We do not object to the schedule as long as it is applied to a higher LOC plan.

The Final LTCP should recommend virtual CSO elimination (25-year LOC or sewer separation) as this FCA demonstrates affordability is not a limiting factor in MWRA's ability to perform this work, which will bring the system into compliance with the Clean Water Act in the proposed amount of time. The Final LTCP should also include a targeted mitigation strategies for Chelsea and low income households in the service area that will be burdened by water and sewer bills under any scenario.

2.3.2. Cambridge FCA

Cambridge includes the following table in the introduction to *11.5 Summary of Cambridge Financial Capability Assessment*. This table is concerning in that it demonstrates that Cambridge

[26] https://www.healthsystemtracker.org/brief/the-burden-of-medical-debt-in-the-united-states/

was willing to pay ***more*** for less CSO control as was originally proposed by the Parties. This is disappointing, we hope the Final Plan prioritizes ending raw sewage going into our rivers.

Table 11-9. City of Cambridge Updated CSO Control Plan – FCA Scenarios

Scenario	Cambridge Costs (FY2025 Dollars)[1]
Baseline	$815,970,467
Limited 2050 TY	+ $266,600,000
2050 TY[2]	**+ $257,000,000**
2050 5-YR	+ $1,071,100,000
2050 25-YR	+ $1,829,500,000
Full Sewer Separation	+ $2,409,500,000

Notes:
(1) Costs for each scenario are evaluated as additions to the baseline.
(2) Represents the draft recommended alternatives.

Cambridge, like MWRA, conducted an Alternative 1 FCA and reported results as follows: "The expanded FCA scores are shown in Table 11-12 and Table 11-13 and demonstrate an overall Low Impact for all capital plan scenarios."

Table 11-12. City of Cambridge Expanded Financial Capability Assessment Matrix for the Baseline, Limited 2050 TY, and 2050 TY Capital Plans

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	**Low Impact**	Low Impact	Medium Impact
Mid-Range	Low Impact	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

Table 11-13. City of Cambridge Expanded Financial Capability Assessment Matrix for Full Sewer Separation, 2050 5-Yr, and 2050 25-YR Capital Plans

Financial Capability Assessment Score	Lowest Quintile Poverty Indicator Score		
	Low Impact (Above 2.5)	Mid-Range (Between 1.5 and 2.5)	High Impact (Below 1.5)
Low Impact	Low Impact	Low Impact	Medium Impact
Mid-Range	**Low Impact**	Medium Impact	High Impact
High Impact	Medium Impact	High Impact	High Impact
		= Results	

We acknowledge that the rate impacts are larger in Cambridge, when it comes to comparison between the 2050 TY and the 2050 25-year or Full Sewer Separation scenarios as shown in Appendix G FCA Summary Tables 3-3 and 3-4. Cambridge residents also have the benefit of direct access to two of the water bodies addressed in the Plan, the Charles River and Alewife Brook.

As home to two of the nation's most prestigious universities, Cambridge has a unique population. From the Cambridge Community Development Department (CDD) inventory of housing units under construction or completed as of June 30, 2025:

Percentage of citywide dwelling units in residential properties with:[27]

- 1 unit (i.e. single-family home): 6.4%
- 2 units: 11.9%
- 3 units: 10.5%
- 4-6 units: 8.8%
- 7-12 units: 4.9%
- 13-25 units: 5.7%
- 26-50 units: 7.7%
- 51-100 units: 9.9%
- Over 100 units: 34.1%

Additionally nearly 14% of the City's population are individuals living in college/university student housing. Many of these students are likely individuals with low or no income, and they will not directly pay water or sewer bills. In addition, the table above shows that 45% of dwelling units are in buildings with over 51 units, and most likely individual units are not separately billed.

The Alternative 2 analysis, while thorough, lacks transparency. In the final report, please address why the analysis is based on a single family wastewater bill when single family homes, as noted above, are a very small minority of residential building types. Table 4-2 is color coded to look particularly alarming, however, we note that the higher levels of control do lead to sharp rate hikes in the up-front years, but quickly decline to 2%. The 2050 TY plan, however, spends an extra decade where 3% rate increases will be needed. In the past 10 years, Cambridge annual sewer rate increases have averaged 6.4%.

Table 4-3 and Figure 4-1 in Appendix G also raise questions. Why does full sewer separation appear cheaper than the 2050 25-year LOC in 2056? If this is truly a lower cost alternative Cambridge should absolutely pursue sewer separation. MWRA can re-examine their needs for storage to address the outfalls on the south side of the Charles to achieve virtual elimination there.

[27] https://www.cambridgema.gov/cdd/factsandmaps/demographicfaq

Figure 4-1 shows that during certain periods of the timeframe between FY26 and FY56, there is barely a difference in rates between the baseline (no CSO control scenario) and the proposed alternative 2050 TY particularly in the early 2030s, late 2040s, and early 2050s. In the proposed scenario, Cambridge is doing the bare minimum above what they would be doing at the baseline with no additional CSO work. This does not represent a true investment in controlling CSOs and should not be selected as the next phase of infrastructure investment when it will just drag the overall implementation time period out an additional 30 years beyond this phase. This figure also shows a considerable level of savings can be achieved for rate payers if sewer separation is pursued as the preferred alternative; this does not match the analysis presented in Appendix G section 3.2. Those differences should be clarified in the final report. Specifically:

- Why are the Residential Indicator results from the modeling for the Sewer Separation Scenario (maximum 2.18% in FY2039) so much lower than the FCA Residential Indicator calculation (3.71%)?
- Why are the Residential Indicator results for the 2050 25-Year scenario from the financial modeling so much higher (maximum 2.91% in FY 2036) than the Sewer Separation scenario (maximum 2.18%)?
- Why does Cambridge consider “unaffordable” bills to be those greater than 2% of the City MHI.”? We acknowledge that EPA’s Residential Indicator Scoring Criteria categorizes this as “High” Financial Impact, but “unaffordable” indicates a different connotation. Explain the use of this term or stick with the EPA terminology in the final report.
- In the “WARi” mapping Appendix G Table 4-5, state the specific cost per household levels for the 5 “Financial Impact” levels in the mapping.
- In the Appendix G Figure 4-6, state the basis for the Median Household Income in the calculations. Is it the MHI of the census tract, or the MHI of Cambridge overall? Also, state the basis for the “bill” – is it the average across Cambridge total, or is it adjusted by the nature of the households in Census tracts which as noted, varies considerably in the City?
- If Sewer Separation is so much cheaper than the 2050 25-year Scenario, why isn’t Cambridge proposing to do it? What would the schedule be – could it be accomplished by 2060, or if not, what would get accomplished by 2060 and what would the LOC be?

The FCA allows for the exploration of variable rate structures and alternative funding sources, we encourage Cambridge to pursue both of these. In conclusion, we find that the Cambridge FCA supports the selection of virtual elimination as the preferred alternative in the Final Plan.

3. The Updated LTCP does not fully consider potential alternatives specifically at the higher LOC.

3.1 Development of alternatives for the higher levels of control is inadequate.

The Parties describe the alternatives developed for the Limited TY and the 2050 TY as, "the larger and more varied group of alternatives" (page 10-2), compared to the alternatives for the higher levels of control where, "there were typically only 2-3 alternatives per LOC" (page 10-2). The attached Geosyntec memo addresses this disparity, and relevant portions are copied below. Examples of this include, not developing higher LOC alternatives that maximize sewer separation and augment with storage in locations where separation alone will not solve the problem. This could involve separation and some combination of tanks or microtunnels. Similarly Alternative 2. CR Hybrid 1, although it did not score as the highest ranking alternative in that LOC, the team could have looked at utilizing the shorter tunnel set up, possibly with a larger diameter, along with sewer separation and targeted tanks and microtunnels.

Excerpt from GeoSyntec memo:

> <u>The basis for rejecting more ambitious 5-year and 25-year levels of control is not yet fully demonstrated.</u>
>
> The Plan's rationale for rejecting more ambitious 5-year and 25-year levels of control would be better supported by a more complete and transparent alternatives analysis. In particular, the Plan should demonstrate that higher-control alternatives were evaluated using comparable assumptions, that feasible hybrid and distributed approaches were not prematurely screened out, and that the decision-making framework fully accounts for localized public health, equity, construction, operational, and long-term community benefits. Key issues discussed in the subsections below include:
>
> - The record does not demonstrate why hybrid grey infrastructure combinations were excluded at the 5-year and 25-year levels of control; and
> - Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk. (Included in section 4.3)
>
> **No demonstrated basis for excluding hybrid grey infrastructure combinations at the 5-year and 25-year levels of control.**
>
> At the 2050 Typical Year level, the Partners developed and tested genuine hybrid combinations of storage, sewer separation, and conveyance (e.g., Alternatives 1–3 for each waterbody). At the 5-year and 25-year levels for 2050, however, this same combination is abandoned in favor of a single consolidated tunnel. The alternatives

did not feature or discuss results of a distributed combination of several strategically sited but larger facilities, the same category of solutions that performed well at the lower LOC tier. It is unclear why this scaled-up hybrid approach was not considered before defaulting to a regional tunnel. The Plan should evaluate scalable hybrid options for the 5-year and 25-year alternatives, such as distributed storage, targeted sewer separation, GSI, conveyance improvements, and real-time controls. If this is not included, the Plan should clearly justify why those strategies were not more thoroughly evaluated before concluding that higher levels of control are impractical, unaffordable, or not cost-effective.

In follow-up discussion with the project teams during a meeting on July 20, 2026, the project teams explained that the cost and feasibility of sewer separation may differ substantially between Somerville and Cambridge. In Somerville, particularly within the Alewife subwatershed, topography may require substantial stormwater pumping, making separation more costly and less incremental. In Cambridge, the teams indicated that more incremental sewer separation concepts may be feasible, although storage would still likely be needed as part of any separation-based alternative. The Plan should therefore distinguish more clearly between locations where sewer separation is constrained by topography and pumping requirements and locations where targeted or phased separation could supplement or reduce reliance on storage.

3.2 Higher LOC is feasible and additional work could identify lower cost alternatives

The Updated LTCP includes four alternatives that achieve a higher LOC than the recommended alternative, demonstrating that higher levels of control are feasible. As noted, above we request additional effort be put into the higher levels of control as this is the LOC desired by the public and elected officials in Boston and Cambridge. The attached memo supports the statement that higher levels of control could be explored further and in fact, in doing so, lower cost alternatives may be discovered. This is not without precedent, MWRA's website notes this occurred in the first LTCP:

> In 1990, MWRA and its engineering consultants recommended a $1.3 billion dollar CSO plan that called for an extensive system of pipes that would drop wet-weather flows into deep, bedrock tunnels where they would be stored temporarily until being pumped to Deer Island for treatment. In 1994, a second look at both CSOs and the entire sewer system brought a different solution. The new plan, with a price tag of approximately $906 million, is in keeping with new state and federal CSO policies and takes into account other MWRA facility improvements that also reduce CSO volumes and impacts."[28]

[28] https://www.mwra.com/your-sewer-system/cso

Geosyntec's major findings are highlighted here; details of each are in the memo. Details of findings 5 and 6 are included here.

> The following preliminary findings summarize the key issues identified during Geosyntec's initial review of the draft updated CSO LTCP:
>
> 1. The Plan's claim that its approach is pathbreaking appears overstated when compared with other CSO control programs.
> 2. The "knee of the curve" and cost-benefit framing may understate the benefits of higher-control alternatives under future climate conditions.
>   a. The cost-benefit curve warrants stress-testing under future design-storm conditions.
>   b. The Plan's evaluation appears to give limited weight to the full public benefits of additional CSO control.
> 3. The Plan's conclusion that 25-year controls are unnecessary or counterproductive because of non-CSO source dominance or system-wide failure during large storms warrants closer technical scrutiny.
>   a. The continued presence of non-CSO pollutant sources does not diminish the importance of additional CSO control.
>   b. Projected system-wide hydraulic limitations during large storms warrant further evaluation before concluding that 25-year CSO controls would provide limited benefit.
> 4. The basis for rejecting more ambitious 5-year and 25-year levels of control is not yet fully demonstrated.
>   a. The record does not demonstrate why hybrid grey infrastructure combinations were excluded at the 5-year and 25-year levels of control.
>   b. Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk.
> 5. The Plan gives limited weight to GSI as a CSO reduction strategy despite recognizing its community co-benefit potential.
>   a. The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives.
>   b. The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI.
> 6. The alternatives analysis in the Plan would be strengthened by sensitivity testing and multi-objective optimization.

Statements 5 and 6 demonstrate the need for additional planning at the higher levels of control. These appear to have been done solely out of obligation and do not demonstrate a meaningful interest in solving the CSO issue.

5. The Plan gives limited weight to GSI as a CSO reduction strategy despite recognizing its community co-benefit potential.

The Plan recognizes GSI as a viable CSO reduction strategy with important community co-benefits, but it does not appear to evaluate GSI as a core component of hybrid alternatives across the full range of levels of control. In particular, the Plan should more clearly explain why GSI was paired primarily with tunnel-based alternatives, why it was not more fully integrated with distributed storage, conveyance, sewer separation, and other gray infrastructure options, and how its broader water quality, climate resilience, public health, equity, and neighborhood benefits were considered in the cost-effectiveness analysis. Key issues discussed in the subsections below include:

- The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives; and
- The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI.
- The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives.

GSI is identified as a viable and effective strategy for reducing CSO volumes; however, in the alternative analysis, it is only evaluated in combination with the tunnel alternative (except in the Mystic River case, where it is paired with storage). Rationale for limiting GSI to these high-cost combinations is unclear. For example, the analysis lacked a detailed breakdown of costs and CSO reduction benefits for GSI when integrated with grey infrastructure options other than tunnels.

During a meeting on July 20, 2026, the project teams stated that GSI was not advanced more broadly in the higher-control alternatives because the modeling did not show GSI as a significant source of CSO volume reduction and, in their view, adding it to 5-year or 25-year storage alternatives would add cost without materially increasing modeled volume-reduction benefit. The Plan should include enough supporting detail to allow reviewers to evaluate that conclusion, including the modeled GSI assumptions, siting constraints, unit costs, estimated volume reduction, and whether GSI was assessed only against CSO volume or also against broader stormwater, heat, habitat, and community co-benefits.

<u>The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI</u>.

The Partners include a qualitative "Community Co-Benefits" scoring criterion that acknowledges GSI can mitigate urban heat, improve aesthetics, and support habitat and recreation but this benefit is applied during the initial screening of alternatives and this benefit is never translated into a dollar figure. However, the

cost-benefit comparison accounts only for CSO volume reduction against capital cost without weighing the water quality improvements, carbon sequestration, urban heat mitigation, stormwater runoff reduction, or neighborhood property and quality-of-life value that a GSI-heavy alternative could provide. Municipal precedent exists for assessing GSI co-benefits during long-term CSO planning. As part of its Long-Term Control Plan, the Philadelphia Water Department used a detailed analysis to assign monetary values to benefits such as water quality improvements, urban heat mitigation, recreation, air quality improvements, carbon reduction, energy savings, and property value enhancement when comparing green and conventional CSO control alternatives. Established economic frameworks such as GSI Impact Calculator could be used to comprehensively quantify the benefits of GSI and systematically compare the GSI-intensive alternatives with some of the grey infrastructures.

During a meeting on July 20, 2026, the project teams did not appear to provide an alternative quantitative benefit metric, such as future gallons of CSO avoided by waterbody and LOC, and indicated that monetizing broader co-benefits would be difficult and potentially speculative. That response does not resolve the underlying concern. If broader benefits are not monetized, the Plan should at minimum provide a transparent qualitative or semi-quantitative comparison showing how additional CSO control and GSI alternatives perform across public health, recreation, resilience, environmental justice, and local economic development criteria.

6. The alternatives analysis in the plan would be strengthened by sensitivity testing and multi-objective optimization.

The Partners built a comprehensive modeling framework for this Plan, reconciling three previously separate hydraulic models (MWRA, Cambridge, Somerville) into a single Unified Model in InfoWorks ICM and developed a climate-adjusted 2050 Typical Year. This represents a substantial technical undertaking, with extensive supporting documentation in the technical appendices.

However, the modeling approach used in this CSO LTCP follows a reductionist method common in CSO and flood planning: identifying available space for a storage facility, sizing it to the maximum extent feasible, and testing that design in the hydraulic model. This may leave some possibilities unexamined. A sensitivity analysis could help identify the system's most critical choke points, then assess options to develop or acquire space for storage there. While upfront costs might be higher, the cost per gallon of CSO reduced could ultimately be lower.

A broader optimization approach could take this approach further. A multi-objective framework such as Optimatics or similar genetic-algorithm-based

tools, could evaluate storage siting/sizing, green stormwater infrastructure (GSI) placement, conveyance, and sewer separation together, and identify combinations that maximize system performance while minimizing cost. This approach was applied for Chicago's Metropolitan Water Reclamation District's Phase II Stormwater Management Pilot Study, where Geosyntec applied an optimization framework that evaluated more than 70,000 alternatives across 5-year, 25-year, and 100-year design storm scenarios. Rather than simply identifying the configuration that eliminates flooding or CSOs, the algorithm searched for the optimal balance between performance and investment cost by explicitly accounting for surcharge reduction, flood reduction, and implementation cost within the objective function, even accepting minor residual flooding where additional benefits did not justify the added investment. The study ultimately found that an optimized combination of green and gray infrastructure achieved nearly the same level of performance as maximum implementation scenarios while reducing costs by more than 40%. The Plan's unified modeling framework would be more persuasive if it were used not only to test predefined alternatives, but also to identify optimized combinations of storage, conveyance, sewer separation, GSI, and real-time controls that may achieve greater CSO reduction at lower cost per gallon.

3.3 Green stormwater infrastructure is not adequately considered

Green stormwater infrastructure (GSI) is a flexible low cost tool which has proven effective in reducing combined sewer overflows in other cities. Flexibility and low-cost are two things stated as priorities for this work. Despite this, a decision was made to cap GSI prior to conducting any analysis guaranteeing that it would not show any substantial benefits in CSO reduction. The Updated LTCP does not include GSI for CSO control.

Our understanding of the decision made to cap the use of GSI before any analysis was even done, was based on the cities' past experience with incorporating GSI into roadway projects, once again demonstrating that in most practical elements the Plan is backward looking. The fact that no alternatives were explored that would have utilized medium to large-scale GSI, demonstrates a limitation of this analysis. We do acknowledge and appreciate that GSI will be utilized in the areas of proposed sewer separation and strongly support that practice.

We request that the team include at least some alternatives in the analysis that do not artificially cap the use of GSI from the start to see if there could be additional hybrid approaches where additional CSO control is achieved through the use of GSI or above ground storage. For example, the Charles River experienced back to back CSOs on July 21st and 22nd at CAM005, each triggered by less than 1" of rainfall. This is a reasonable amount of rainfall that could be controlled with GSI and would have resulted in two fewer CSO events during the busy summer recreation season, less pollution, and three fewer days with CSO public health advisories (i.e. red flag days).

3.4 Use Regional or "Innovative" CSO solutions is Missing

On page 1-3 the Parties state: "This delicate balance highlights why many conventional CSO control approaches are not feasible in the uniquely constrained environment surrounding these remaining outfalls." This is directly contrary to the approach the Partners took however; the tools deployed, as described in Section 8.1, are all extremely traditional CSO control tools. Green stormwater infrastructure is a newer tool and may potentially be classified as "innovative" but as discussed above the use of that tool was capped at 10% of runoff treatment from the very beginning of the analysis.

The Updated LTCP also categorizes the regional nature of the challenge on page 1-8: "Although remaining combined areas within Cambridge, Somerville, and Boston are a primary contributor to remaining CSOs, large storms of the magnitude considered in this study, particularly when coupled with extended wet periods, can contribute extraneous stormwater flows from the upper reaches of the MWRA service area outside the boundaries of Cambridge and Somerville of magnitude that can influence existing CSO discharges."

EPA's CSO Long Term Control Plan Review Fact Sheet in discussing regulatory review of LTCPs states: "The overall intent of the review is to ensure that the LTCP is a coherent, organized document featuring a logical, step-by-step analysis that justifies the selection of CSO controls to meet WQS and protect designated uses."

Including this statement in the introduction of a Updated LTCP that goes on to *only* include conventional CSO approaches and no regional solutions does not represent a logical, step-by-step analysis that justifies the selection of traditional CSO controls. Use of regional solutions such as additional I/I control or storage even further upstream should be addressed in the Final Plan. Additionally, investigation of innovative approaches such as real time tracking of pipe capacity throughout the regional system, as has been done in other cities effectively, should also be considered.

4. The Updated LTCP is inconsistent with other well-established state priorities.

4.1 The Updated LTCP is inconsistent with state policy.

The Recommended Plan is inconsistent with multiple state priorities and policies. The Commonwealth's constitution states: "The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose."[29]

The Recommended Plan violates the people of the Commonwealth's right to clean water.

[29] Constitution of the Commonwealth of Massachusetts, Article 97.

In 2023, Governor Maura Healey made history with Executive Order No. 618, calling for biodiversity conservation goals for 2030, 2040, and 2050. In response, the Massachusetts Department of Fish & Game developed biodiversity goals for the state. Two of these goals are:

- Reduce or eliminate combined sanitary sewer overflows and sanitary sewer overflows through sewer separation, sanitary sewer upgrades, and better stormwater management.
- Sustain our nation-leading blue economy, commercial and recreational fisheries, by restoring marine habitats and biodiversity, climate resilience, and water quality improvements. Support working waterfronts with grants to enhance resilience of shoreside infrastructure, business operations, public health and shellfish testing, and accessible fishing piers and docks.

The current Recommended Plan which does not protect water quality in a changing climate is not consistent with the state biodiversity goals.

Finally, the The ResilientMass Plan, includes three relevant goals the Final LTCP should support:

- Increasing resilience of state assets and services,
- Implementing adaptation actions for communities and ecosystems,
- Ensuring actions to reduce hazards and climate risks consider climate mitigation and prioritize nature-based solutions.

4.2 CSOs are an environmental justice issue and state environmental justice policy must be considered.

Combined sewer overflows are an environmental justice issue in Massachusetts. Sewage discharges disproportionately affect residents in Environmental Justice communities. Dr. Nathan Sanders, a data scientist and Climate Justice Design Fellow at Harvard University found that, in Massachusetts, watersheds with socially vulnerable populations are disproportionately affected by the occurrence of CSOs. Across 31 Massachusetts watersheds, CSO volumes are greatest in watersheds with the highest proportion of non-white, linguistically isolated, or low-income households. When comparing any two watersheds, on average, a watershed with double the percentage of non-white residents will receive three times the CSO volume.[30]

The Massachusetts Environmental Justice Policy calls for investments in economy and open space in Environmental Justice neighborhoods:

> EEA and its agencies shall continue to prioritize EJ communities through attentive planning practices and thoughtful consideration when permitting and developing. . . .

[30] https://youtu.be/ntrHsInpsgc?feature=shared

Targeted Open Space Resources. EEA shall endeavor to target its resources to more effectively create, restore, and maintain open spaces located in neighborhoods where EJ populations reside.

Climate Change Adaptation, Mitigation, and Resiliency. EEA agencies shall consider the current and future impacts that climate change will have on EJ population. In doing so, EEA agencies shall take appropriate measures towards ensuring that EJ populations are equally protected from hazards and health risks imposed by future climate changes and properly informed of appropriate measures taken to increase their adaptive capacity. Furthermore, EEA agencies shall collaborate with other Secretariats when awarding grants around climate change adaptation.[31]

The Updated LTCP and the Recommended Plan do not prioritize the health and safety of the EJ neighborhoods located adjacent to the Charles, Mystic and Alewife and therefore should not be approved by MassDEP unless improvements are made. With respect to the promotion of open space, the policy calls for investments in open space and climate adaptation in EJ areas. This should be factored into the Plan details.

4.3 Information was provided to the public, but public engagement was not part of the process.

CRWA has communicated our disappointment with public engagement throughout this process. That feedback, previously offered in the hopes of influencing the process, was not acted upon. We fully acknowledge that the team has done extensive public ***outreach***, but there is a difference between outreach and engagement and that gap was never addressed.

This Plan does not reflect community input. While community meetings were held, public comments that did not fit the preconceived narrative of the project's trajectory, namely that enough has been done, were systematically ignored. Throughout the planning process, decisions were made that limited the capacity of the public to review and advise on Plan development. Meetings were tightly controlled with time limits on individual comments and questions. A recent example of the lack of accessibility of the process is in the published format of the online plan. The over 500 page document does not include actual sequential page numbers, making the report needlessly challenging to navigate.

We strongly object to this statement and request it be changed in the final report: “Although the Partners heard a strong desire from advocacy groups for the Charles River, Mystic River and Alewife Brook to eliminate any and all CSOs to these water bodies, as documented in this Plan, that approach comes at a sizeable expenditure of limited regional resources that would be more prudently applied to reduce other pollutant sources and address the climate change challenges ahead.” First, to characterize the push for ending CSOs as only coming from “advocacy groups”

[31] https://www.mass.gov/doc/environmental-justice-policy6242021-update/download

is completely false. It is true our advocacy group did attend every meeting to speak up for ending CSOs but we were far from alone. Many, many members of the public took time out of their busy lives to come to the meetings, listen to presentations, have the patience to deal with the Zoom webinar format, come off mute and speak to the importance of having sewage free water bodies, particularly in highly urbanized and heavily recreated areas. A resident of Watertown (see attachments) recently felt moved to write a letter to their local paper about sewage overflows asking fellow residents to engage in this process for their beloved river. The fact that this report completely dismisses those members of the public is outrageous and should be addressed.

Second, there have been no proposals during this process or in the Updated LTCP to reduce other pollutant sources and address the climate change challenges ahead along with CSOs in a more holistic nature. This is also something that advocates and members of the public have called for, holistic investments that can address CSOs, environmental health and climate change. We would welcome such an approach.

The large public outcry that occurred in October 2025, when the Partners proposed increasing CSOs by spending close to $1B on the Limited CSOs in 2050 TY plan, is further evidence of broad and active engagement not being acknowledged. The MWRA board received 81 letters and over 1900 petition signatures objecting to this; it was not three letters from CRWA, MyRWA and StAB. Members of our team who are residents of Cambridge and Somerville were approached by fellow parents at school pick up, friends at Halloween parties, and even our barbers to ask why the Partners would have spent all that money and effort to clean up the Charles, just to make it dirty again.

As of the comments posted through October 15, 2026, 861 individuals have commented on the Updated LTCP with an estimated 85% requesting that the Final Plan recommend the highest level of CSO control or pursue full sewer separation. The selected LOC is arguably the single most important decision made in this process and it was made without consideration of public input.

We request that the final plan accurately recognize the hundreds of residents who took the time to participate in this process and express an interest in ending CSOs.

5. Additional site specific considerations for the Charles River Recommended Plan.

In Section 10.4.2.3, the Parties state: “[k]ey considerations for determining the LOC for the Charles River focused on the timeline to CSO reduction benefit; construction considerations including duration of construction and traffic; site acquisition, including temporary and permanent impacts to public uses/parklands; operational impacts; and cost compared to the water quality benefit achieved.” (page 10-45). The engineers tasked with developing solutions, clearly did considerable work to develop the various alternatives. The Parties, however, have also treated the selection of the appropriate LOC as another engineering problem to be solved

behind the scenes. Notably absent from the list of considerations for selection of the recommended LOC is public input. Despite the process requiring a public component, despite hundreds of residents showing up at the seven public meetings to demand an end to CSOs in our local rivers, despite the use and enjoyment of the Lower Charles, and despite the economic impacts of cleaning up the river. Leaders in Boston, Cambridge and Somerville have now requested the project team set their sights higher and end CSOs in this next LTCP. Starting with this vision, the engineers can creatively develop new and updated alternatives that end CSOs in the Charles.

The Updated LTCP claims:

> When compared to alternatives achieving higher levels of control, the recommended projects have additional benefits, including:
> - Earlier reductions in CSO discharges as several projects can be completed and come online more quickly;
> - Less disruptive construction impacts, including less truck traffic; and
> - Reduced temporary and permanent loss of valuable open space, including park land. (ES-5)

Regarding construction timelines, the proposed timeline for the Recommended Plan for the Charles is 28-33 years, once again meaning the project will be completed in the 2060s, the upper end of the rainfall analysis timeframe. The 2050 25-year plan has a construction timeline of only 15-20 years, if shorter timelines are a priority, the 25-year LOC plan should be pursued in the Charles.

Construction impacts are an unfortunate and unpleasant fact of life. The Geosyntec memo highlights the fact that distinction between construction impacts and potential permanent impacts is not clearly defined in the Updated LTCP. There is a note that permanent impacts to the Esplanade will be greater for higher levels of control; and there are other locations where the 2050 25-year plan has a *smaller* footprint on public parkland such as Magazine Beach. While we understand these are early designs, impacts are somewhat vague in the Plan, they are distributed across various sections of a very long report and as discussed below this has already led to considerable confusion about the Magazine Beach site.

> **“Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk.**
>
> The Plan identifies construction disruption, park and open-space impacts, truck traffic, and operational capacity concerns as reasons to prefer the recommended plan. These impacts are legitimate, but the analysis should distinguish between temporary construction impacts, permanent impacts, mitigable impacts, and impacts that create true technical infeasibility or unacceptable risk. Regulators should require clearer documentation of mitigation options, phasing strategies, alternative alignments, staging

approaches, capacity upgrades, and adaptive management measures before dismissing these concerns." (Geosyntec Memo dated October 13th)

5.1 Magazine Beach

We request detailed and transparent information be provided regarding the use of Magazine Beach, a well-utilized and much loved park in the heart of Cambridge. The residents of greater Boston, particularly residents living in dense urban areas are entitled to both clean water and open space, to present these as a conflict is a false choice and one designed to sow confusion and discontent. We do appreciate the MWRA and Cambridge indicated they will review other locations for a possible tank at an October 27th neighborhood meeting, we request the same review be applied to infrastructure for the 25-year LOC tunnel alternative. Many other locations were suggested by residents.

We request clear updates to the Magazine Beach impact statements in the Plan, specifically we request that it be made clear that any storage under the park or in the area would not require permanent fencing as was previously communicated. The Cambridge City Council has already rejected any project that requires fencing off a large portion of the playing field.

MWR201 (Cottage Farm - Treated)	10.1 MG storage tank	• Construction of the large tank with deep excavation adjacent to the Charles River will require extensive management of groundwater and excavation support • Most of Magazine Beach Park will not be accessible to the public during the construction. • Truck traffic during construction will need to be managed to minimize impacts to Memorial Drive and adjacent neighborhoods • Tank construction within Magazine Beach Park will require coordination with Eversource who are working to install a major electrical duct bank through the park. Deep excavation adjacent to Charles River in Magazine Beach Park	• Permanent above ground structures will remain for the dewatering pump station and odor control facility which will require access for regular maintenance	• Construction on Magazine Beach Park would require Article 97 legislation to authorize the change of use of the site	•

Finally, there are alternatives that can be implemented to reduce CSOs further and have less of a permanent above ground footprint at Magazine Beach therefore we once again call on the project team to recommend the 25-year LOC or sewer separation. The tunnel proposal spreads storage out across a larger geographic area instead of requiring it all occur in one neighborhood in Cambridge. Sewer separation, while disruptive, ends the problem for good and leaves our beloved parks intact.

5.2 Nine Minimum Control Measures

The post-construction monitoring program performed by MWRA at the conclusion of construction activities in the initial Long Term Control Plan demonstrated the critical need for on the ground monitoring. Tracking overflows and in system conditions demonstrated that performance was worse than expected based on modeling alone. Much of this was attributed to maintenance issues, demonstrating the critical role maintenance can play in reducing CSOs. MWRA provided extremely minimal information on their maintenance efforts here making it difficult to evaluate the efficacy of this work. Cambridge and Somerville provide additional details, however, none of the Parties state whether maintenance issues are causing or contributing to CSOs and if there is any potential for improvement through maintenance.

The Parties claim to have maximized in-system storage and we applaud the use of this low cost control measure. Other cities, however, have used Smart Sewer systems to track sewer capacity in real time to allow for storage and rerouting. South Bend Indiana reports saving $500 million on their long term control plan and preventing millions of gallons of overflows from implementing this approach[32]. The real time system monitors have also improved maintenance responses and the utility is notified of blockages in real time. It is unclear why this modern solution was not explored as part of the development of the Updated LTCP. **We request the Parties address this in the Final Plan**. Enhanced in-system monitoring can help the Parties better understand pinch points in the system to potentially allow for a more targeted and effective application of solutions and inform the Parties' integrated model.

The Parties note signage is posted at all outfalls, **CRWA requests the City of Cambridge review the visibility of signage at CAM005 and CAM007, recent construction impacts may have impacted that sign which should be easily visible from the pathway.**

While we are disappointed by many elements of the proposed Plan, we look forward to working with the Parties and the regulators in the coming years to develop a Final Long Term Control Plan worthy of Greater Boston. One that is truly forward looking and adequately values the health of the Charles River and acknowledges the economic driver it is and can continue to be for the City. If you have any questions about our comments, we are happy to discuss them with you. Addressing the numerous comments submitted on this extensive and detailed Plan is no small feat, we look forward to seeing the updated and improved Plan in May of 2027.

Sincerely,



Max Rome, PhD
Clean Water Director
Charles River Watershed Association



Julie Dyer Wood
Chief Program Officer
Charles River Watershed Association



Jonathan Flynn
General Counsel and Legal Director
Charles River Watershed Association

Attachments:
Department of Environmental Protection Letter dated November 17, 2025
Geosyntec Memo
Watertown News Letter July 2026

[32] https://eri.iu.edu/erit/case-studies/south-bend-indiana-uses-smart-technology-to-monitor-and-regulate-wastewater-levels.html

cc: Governor Maura Healey
Lieutenant Governor Kim Driscoll
Secretary Rebecca Tepper
MassDEP Commissioner Bonnie Heiple
US Senator Ed Markey
US Senator Elizabeth Warren
US Congressperson Katherine Clark
US Congressperson Jake Auchincloss
US Congressperson Ayanna Pressely
US Congressperson Steven Lynch
Representative Alice Peisch (14th Norfolk)
Representative Jeffrey N. Roy (10th Norfolk)
Representative John J. Lawn Jr. (10th Middlesex)
Representative David Paul Linsky (5th Middlesex)
Representative Tommy Vitolo (15th Norfolk)
Representative Joshua Tarsky (12th Middlesex)
Representative Marcus S. Vaughn (9th Norfolk)
Representative Michael J. Soter (8th Worcester)
Representative Brian W. Murray (10th Worcester)
Representative James C. Arena-DeRosa (8th Middlesex)
Representative Jack Patrick Lewis (7th Middlesex)
Representative David M. Rogers (24th Middlesex)
Representative Michelle L. Ciccolo (15th Middlesex)
Representative Carmine Lawrence Gentile (13th Middlesex)
Representative Thomas M. Stanley (9th Middlesex)
Representative Steven Owens (29th Middlesex)
Representative Amy Mah Sangiolo (11th Middlesex)
Representative Greg Schwartz (12th Norfolk)
Representative Mike Connolly (26th Middlesex)
Representative Christine P. Barber (34th Middlesex)
Representative Michael J. Moran (18th Suffolk)
Representative Aaron Michlewitz (3rd Suffolk)
Senator Karen E. Spilka (Middlesex & Norfolk — Senate President)
Senator Cynthia Stone Creem (Norfolk & Middlesex — Majority Leader)
Senator William N. Brownsberger (Suffolk & Middlesex — President Pro Tempore)
Senator Michael J. Barrett (3rd Middlesex)
Senator Rebecca L. Rausch (Norfolk, Worcester & Middlesex)
Senator Ryan C. Fattman (Worcester & Hampden)
Senator Cindy F. Friedman (4th Middlesex)
Senator Patricia D. Jehlen (2nd Middlesex)
Senator Michael F. Rush (Norfolk & Suffolk)
Senator Paul R. Feeney (Bristol & Norfolk)
Sumbul Siddiqui, Mayor of Cambridge
Burhan Azeem, Vice Mayor of Cambridge

Tim Flaherty, Cambridge City Councilor
Marc C. McGovern, Cambridge City Councilor
Patricia M. Nolan, Cambridge City Councilor
E. Denise Simmons, Cambridge City Councilor
Jivan Sobrinho-Wheeler, Cambridge City Councilor
Ayah A. Al-Zubi, Cambridge City Councilor
Catherine Zusy, Cambridge City Councilor
Jake Wilson, Mayor of Somerville
Jon Link, Somerville City Councilor At Large
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Maura T. Healey, Governor
Kim Driscoll, Lieutenant Governor
Rebecca Tepper, Secretary
Bonnie Heiple, Commissioner

November 17, 2025

Fred Laskey, Executive Director
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Yi-An Huang, City Manager
City of Cambridge
795 Massachusetts Avenue
Cambridge, MA 02139

The Honorable Katjana Ballantyne, Mayor
City of Somerville
93 Highland Avenue
Somerville, MA 02143

Re: MWRA/Cambridge/Somerville Updated CSO Control Plan

Dear Mr. Laskey, Mr. Huang, and Mayor Ballantyne:

Massachusetts Department of Environmental Protection (MassDEP) staff virtually attended the October 29, 2025 Massachusetts Water Resources Authority (MWRA) Board of Directors meeting, which focused on the collective efforts of MWRA and the Cities of Cambridge and Somerville to develop a Draft Updated Combined Sewer Overflow (CSO) Control Plan. As you know, the development of a Draft and Final Updated CSO Control Plan is a requirement of the Water Quality Standards Variances issued by MassDEP to MWRA and the Cities of Cambridge and Somerville on August 30, 2024.

Based on the information presented at the October 29 meeting, MassDEP is concerned that Recommended Alternatives identified may be insufficient to address CSO discharges and associated impacts. In particular, an approach that would result in a greater number of activations and/or volumes than occur at present would not appear to be consistent with the federal Clean Water Act or the Massachusetts Surface Water Quality Standards, which are intended to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. 1251(a); 314 CMR 4.01(3).

While MassDEP understands that the information presented at the October 29 MWRA Board Meeting is preliminary, considerable time and resources will be invested by MWRA and the Cities and Cambridge and Somerville, their respective approving authorities, state and federal regulators, and stakeholders to complete a Final Updated CSO Control Plan over a number of years. Accordingly, to ensure a productive process, MassDEP urges MWRA and the Cities to reevaluate the alternatives and reconsider their respective recommendations at this time. Submitting a Draft Plan that satisfies state and federal standards by achieving the highest feasible level of CSO control will provide a solid starting point for the multi-year process to follow.

We understand that reconsidering alternatives may require additional work and collaboration amongst the three permittees. If MWRA and the Cities of Cambridge and Somerville require additional time beyond the December 31, 2025, deadline, please notify MassDEP in writing and provide a reasonable timeline (e.g., 30 additional days) to complete and submit the Draft Plan.

If you have any questions regarding this matter, feel free to contact me at kathleen.baskin@mass.gov or (781) 686-5946.

Sincerely,



Kathleen Baskin
Assistant Commissioner, Bureau of Water Resources

Cc: Todd Borci, USEPA
Ken Moraff, USEPA
Eric Worrall, Regional Director, MassDEP Northeast Regional Office
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Memorandum

Date:	**October 13, 2026**
To:	**Mystic River Watershed Association and Charles River Watershed Association**
From:	**Nigel Pickering, PhD, PE, Senior Engineer; Renee Bourdeau, PE, Senior Principal Engineer; Samrat Dahal, PhD, Senior Staff Scientist; Katie Lamoureux, AICP, Senior Scientist; Katie Bateman, Staff Engineer**
Subject:	**Technical Review of Draft Updated Combined Sewer Overflow Control Plan for Alewife Brook, Upper Mystic River, and Charles River**
Project #	**26011808**

INTRODUCTION

Project Background

The Massachusetts Water Resources Authority (MWRA), the City of Cambridge, and the City of Somerville (the Partners) are preparing an updated Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) for CSOs discharging to the Charles River, Mystic River, and Alewife Brook. MyRWA and CRWA retained Geosyntec Consultants, Inc. (Geosyntec) to provide an independent technical review of the draft updated CSO LTCP for CSOs discharging to the Charles River, Mystic River, and Alewife Brook (April 30, 2026) and supporting materials. The purpose of this review is to help the watershed associations understand the technical basis for the proposed LTCP, identify key questions for follow-up, and evaluate whether the plan is likely to make meaningful progress toward reducing CSO activations, CSO discharge volumes, and associated water quality impacts in the receiving waters.

Review Objectives and Approach

Geosyntec's review focuses on the extent to which the draft updated CSO LTCP characterizes existing and future CSO impacts, evaluates feasible control alternatives, and incorporates strategies that advance water quality, public health, climate resilience, and community co-benefits. Consistent with the scope of work, Geosyntec reviewed available planning documents and related materials to identify technical considerations associated with hydrologic and hydraulic assumptions, CSO activation frequency and volume, receiving water impacts, opportunities for source control and green stormwater infrastructure, and the reasonableness of proposed projects and implementation assumptions. The review was also intended to answer specific questions provided by MyRWA and CRWA regarding the technical basis, alternatives analysis, and anticipated benefits of the draft updated CSO LTCP. This memorandum summarizes Geosyntec's

preliminary findings and is intended to support future comments, discussions, and decision-making by the watershed associations.

In addition to evaluating the technical content of the draft updated CSO LTCP, this review considers whether the plan adequately identifies opportunities to reduce wet-weather flows at the source and to incorporate nature-based or distributed stormwater management practices where they could complement gray infrastructure solutions.

PRELIMINARY FINDINGS

In general, the CSO LTCP reflects a significant modeling and planning effort by the Partners, including development of a unified hydraulic model and a climate-adjusted 2050 Typical Year. However, the central regulatory question is not only whether the recommended plan is affordable or implementable, but whether the record demonstrates that the selected level of CSO control is sufficient to protect designated uses, public health, and long-term water quality. The EPA CSO Control Policy allows consideration of cost, performance, financial capability, and phasing, while continuing to require selected controls to satisfy Clean Water Act requirements, including water quality standards and protection of designated uses. A clear, evidence-based explanation of how the recommended level of control satisfies the CSO Control Policy's presumption or demonstration framework, including how more protective feasible alternatives or combinations of alternatives were considered, would provide important support for review of the recommended approach. EPA and MassDEP, in their oversight and permitting roles, must be able to evaluate whether the recommended plan provides an appropriately comprehensive, practicable, and defensible level of CSO control under current and future climate conditions; that determination cannot be made without sufficient supporting documentation in the administrative record.

The following preliminary findings summarize the key issues identified during Geosyntec's initial review of the draft updated CSO LTCP:

1) **The Plan's claim that its approach is pathbreaking appears overstated when compared with other CSO control programs.**

2) **The "knee of the curve" and cost-benefit framing may understate the benefits of higher-control alternatives under future climate conditions.**

    a) The cost-benefit curve warrants stress-testing under future design-storm conditions.

    b) The Plan's evaluation appears to give limited weight to the full public benefits of additional CSO control.

3) **The Plan's conclusion that 25-year controls are unnecessary or counterproductive because of non-CSO source dominance or system-wide failure during large storms warrants closer technical scrutiny.**

a) The continued presence of non-CSO pollutant sources does not diminish the importance of additional CSO control.

b) Projected system-wide hydraulic limitations during large storms warrant further evaluation before concluding that 25-year CSO controls would provide limited benefit.

4) **The basis for rejecting more ambitious 5-year and 25-year levels of control is not yet fully demonstrated.**

a) The record does not demonstrate why hybrid grey infrastructure combinations were excluded at the 5-year and 25-year levels of control.

b) Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk.

5) **The Plan gives limited weight to GSI as a CSO reduction strategy despite recognizing its community co-benefit potential.**

a) The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives.

b) The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI.

6) **The alternatives analysis in the Plan would be strengthened by sensitivity testing and multi-objective optimization.**

The following section summarizes each of these key findings in more detail.

SUPPORTING DETAILS

1. The Plan's claim that its approach is pathbreaking appears overstated when compared with other CSO control programs.

Although the Plan presents a broad screening of major CSO control categories, its alternatives analysis does not appear to evaluate several strategies used by peer communities in sufficient depth. Other U.S. and international cities have used or are pursuing more aggressive sewer separation, storage tunnels, real-time control, green stormwater infrastructure, wet-weather treatment, and hybrid green/gray approaches (Table 1). Boston has already separated approximately 80% of its service area[1], although several peer cities have gone further. Minneapolis and Saint Paul completed comprehensive sewer separation programs and have effectively

[1] Draft CSO LTCP Report; Table 9-1

separated nearly all of their former combined sewer service areas, while Atlanta has separated around 90% sewer area[2]. These examples demonstrate that large-scale sewer separation remains a viable and proven component of long-term CSO control strategies.

Additionally, strengthening the comparative analysis to show whether the alternatives were benchmarked against the full range of control strategies used in peer communities, including complete or near-complete sewer separation and distributed hybrid systems, would provide MassDEP and EPA with better information to evaluate whether potentially feasible strategies were fully considered before selecting the recommended approach.

The information in Table 1 provides a more complete comparison of peer communities that have directed investments toward a wider range of approaches. Minneapolis achieved full sewer separation through a multi-decade transition to a two-pipe network and eliminated wet-weather overflows, while St. Paul completed a fully separated system through an accelerated 10-year program supported by rainleader removal and broader infrastructure upgrades. Complete sewer separation provides the most direct means of preventing future climate-induced CSOs because it removes stormwater from the sanitary collection system rather than relying on downstream storage or conveyance capacity. It therefore warrants careful consideration when evaluating long-term resilience to future rainfall events of uncertain volume, intensity, and duration.

Atlanta has pursued a hybrid strategy that combines targeted sewer separation with deep-rock tunnel storage, and Lansing has incorporated sewer installation into coordinated roadway and water-main projects through its "Infrastretching" approach. International examples similarly demonstrate a broad range of investment priorities, including Amsterdam's "Sponge City" approach emphasizing local retention and rainfall management, and Arnhem's "Green, Smart and Together" climate adaptation strategy.

Experience from other jurisdictions suggests that hybrid systems can provide cost-effective approaches to complete sewer separation, allowing cities to combine targeted separation, storage, and green infrastructure to achieve multiple performance objectives while managing implementation costs. Several communities have reduced project costs and community disruption by coordinating sewer improvements with other infrastructure investments, such as roadway reconstruction and water main replacement. In addition, funding approaches have evolved over time, with many cities increasingly relying on local financing mechanisms to support large-scale wastewater and stormwater programs. Finally, future planning efforts across many jurisdictions are being shaped by climate resilience objectives, including preparation for more intense rainfall events, expanded stormwater storage, and integrated blue-green infrastructure.

A more complete record demonstrating how the alternatives analysis considered the full range of CSO control strategies implemented or advanced by peer communities, including more extensive

[2] https://cwa.atlantawatershed.org/index.php/history-3/

sewer separation, distributed storage, real-time controls, GSI, and hybrid green-gray approaches, would provide MassDEP and EPA with better information for evaluating the breadth and defensibility of the alternatives screening. For strategies that were screened out or evaluated only at a limited scale, the CSO LTCP should clearly document the technical, site-specific, operational, and financial basis for doing so. Such documentation would allow MassDEP and EPA to evaluate whether potentially feasible strategies and combinations of strategies were fully considered and whether the recommended alternative represents an appropriately comprehensive approach to long-term CSO control under future climate conditions.

Table 1: Comparison of Alternative CSO Reduction Approaches

City	Separation Status & Coverage	Management Strategy	Costs / Investment	Future Plans
Minneapolis, MN	~95% of service area separated since 2010[i].	Multi-decade transition to a two-pipe network. Phase II targeted private property disconnections[ii].	Total cost of 10-year program (1986-1995) was $400 million for both Minneapolis and St. Paul[iii].	$60 million Central City Parallel Storm Tunnel (2020–2024) to expand capacity[iv].
St. Paul, MN	100% of service area since 1996[v,vi].	Accelerated 10-year program. Included rain leader removal and infrastructure upgrades[vii].	Total cost of 10-year program (1986-1995) was $400 million for both Minneapolis and St. Paul[viii].	$1.5 to $1.8 million annual investment for inspections and maintenance[ix].
Atlanta, GA	90% of service area separate[x,xi].	Sewer separation for some basins and deep tunnel storage for others.	Spent $1.07 billion of an estimated $1.90 billion budget as of late 2017[xii].	Work on the separate sewer collection system is scheduled to continue until 2027[xiii].
Lansing, MI	70% of service area is separated as of 2022[xiv].	Collaborative approach replaces water mains and reconstructs roads during sewer installation.	Overall estimated cost for long-term Wet Weather Control Plan is $420 million[xv].	40-year implementation schedule to maintain ratepayer affordability[xvi].
Boston, MA	~80% of service area separated[xvii; xviii].	Mix of sewer separation and massive regional infrastructure.	$941 mil for 2006 LTCP. Projected regional investment up to $2.6 billion[xix].	0 CSOs target for 2050 Typical Year. Separation in E and S Boston through 2031[xx].
St. Louis, MO	~80% of sewer length separated[xxi].	MSD Project Clear mandated by a 2011 Consent Decree. “Open-cut" construction for new pipes[xxii].	$4.7 billion total investment required over 23 years[xxiii].	Full implementation of CSO control measures by 2034[xxiv].

Amsterdam	~70% of service area separated[xxv].	Combined sewer routes wet-weather flow to treatment while separate areas discharge directly to canals.	Total replacement cost of €2.5 billion. Annual operation cost €8–100 million[xxvi].	Target above-ground "sponge" capacity to absorb 60 mm/hr by 2050. Accelerate replacement from 48 km/yr to 66 km/yr[xxvii,xxviii].
Arnhem	~82% of sewer length separated[xxix].	Guided by the "Green, Smart and Together" climate adaptation strategy that includes goals of increased on-site storage and reduced paved areas.	One-time funds of €3.7 million from multiple sources. Sewer budget of €12 million annually. Added €800,000 annually for climate goals[xxx,xxxi].	New Water and Sewerage Program (WRP). Massive long-term replacements in Arnhem-Zuid[xxxii].

2. The "knee of the curve" and cost-benefit framing may understate the benefits of higher-control alternatives under future climate conditions.

The Plan's "knee of the curve" and cost-benefit rationale would be more defensible if supported by a more robust analysis of how higher-control alternatives perform under future climate conditions and how their full public benefits are valued. In particular, additional documentation could show how the selected level of control performs when alternatives are evaluated against larger, climate-adjusted design storms. It could also explain how the benefits analysis accounts for public health, water quality, equity, resilience, recreational, and economic benefits beyond capital cost per gallon reduced. This information would provide MassDEP and EPA with better support for reviewing the basis for the recommended approach. Key issues discussed in the subsections below include:

- The cost-benefit curve warrants stress-testing under future design-storm conditions; and
- The Plan's evaluation appears to give limited weight to the full public benefits of additional CSO control.

<u>The cost-benefit curve warrants stress-testing under future design-storm conditions.</u>

The Plan's cost-benefit curve appears to evaluate reductions using historical 2015–2024 precipitation, while also acknowledging that future CSO conditions may worsen under 2050 climate assumptions. If the historical evaluation period does not include storms large enough to distinguish the performance of 5-year and 25-year alternatives, the curve may not accurately represent the incremental benefit of higher levels of control. If the evaluation included storms at the 2050 5-year and 25-year magnitudes, baseline CSO volume would have been higher, and the higher Level of Control (LOC) alternatives (5-year and 25-year) would have shown corresponding

larger reductions in CSO volume. This would change the reported values in Table 10-25 and reshape Figure 10-9: rather than flattening after the TY-level point, the curve would likely continue rising, showing incremental benefit at each cost tier rather than the flattening returns currently shown. The benefits analysis should include performance under future 2050 design-storm conditions, including storms at or above the 5-year and 25-year levels, to better differentiate alternatives and support a more defensible regulatory decision.

Follow-up discussion with the project teams during a meeting on July 20, 2026 clarified that the Alewife "do nothing" increase referenced in the plan was closer to a two-fold increase, not a four-fold increase, and that the recent 2015–2024 period may include storm conditions that are more comparable to projected 2050 Typical Year conditions than to current average conditions. Even with that clarification, the Plan should present explicit future annual CSO volume estimates for each level of control, because the key planning question remains whether the recommended Typical Year alternative merely offsets climate-driven increases in wet-weather flow or provides a meaningful long-term reduction in CSO discharges.

The project teams also indicated that the modeled performance of the 5-year level of control was based on running the full 2015–2024 precipitation record through the hydraulic model, rather than relying only on a simplified comparison to a nominal 5-year storm depth. This clarification strengthens the need to distinguish modeled "virtual elimination" of recent-period CSOs from performance under future larger storms, and supports requesting additional model results that show the incremental benefit of 5-year and 25-year controls under climate-adjusted future conditions.

<u>The Plan's evaluation appears to give limited weight to the full public benefits of additional CSO control.</u>

The current framing appears to emphasize capital cost per gallon of CSO volume reduced, while giving less weight to the broader public benefits that may result from higher levels of CSO control. These benefits may include improved water quality, reduced public health exposure, enhanced recreational use, greater climate resilience, improved equity outcomes, and long-term community and economic benefits associated with cleaner and more usable rivers. Regional experience also suggests that the broader public benefits of major water quality investments can be evaluated prospectively, before they are fully realized. For example, economic analyses prepared in connection with the Boston Harbor cleanup, including the Caulkins study, estimated substantial public benefits from improved water quality, recreation, aesthetics, public health, and waterfront use, demonstrating that long-term community and economic benefits can be considered in advance to help inform planning and public investment decisions rather than only documented after implementation.[3] A similar approach could be used here to assess whether more ambitious 5-year

[3] Caulkins, P., Binkley, C., Ruf, C., and Miller, C. 1988. *The Role of Economic Benefits Analysis in Funding Marine Combined Sewer Overflow Projects: Case Study of Boston Harbor*. Journal (Water Pollution Control Federation), 60(7): 1275-1280.

and 25-year levels of control may provide benefits that offset or help justify higher capital costs. In evaluating whether those higher levels of control are practicable and defensible, the Plan should more clearly document how these broader benefits were considered. Providing this information would better support MassDEP's and EPA's roles in reviewing the LTCP and determining whether the selected level of control is adequately justified under the CSO Control Policy, including whether the recommended approach appropriately accounts for cost, practicability, and the broader public benefits of additional CSO reduction.

3. The Plan's conclusion that 25-year controls are unnecessary or counterproductive because of non-CSO source dominance or system-wide failure during large storms warrants closer technical scrutiny.

The continued presence of non-CSO pollutant sources does not diminish the importance of additional CSO control.

The presence of other major pollutant sources, including stormwater, upstream bacteria loads, illicit connections, sanitary sewer leakage, wildlife, pet waste, and watershed runoff, is an important reality for the Charles River, Mystic River, and Alewife Brook. However, the fact that non-CSO sources will continue to affect water quality does not mean that remaining CSO discharges are insignificant or that additional CSO control has minimal value. CSOs are uniquely problematic because they introduce untreated or partially treated sewage directly to receiving waters during wet weather, often at the same times and locations when recreational exposure, downstream transport, and public notification concerns are most acute. Even if stormwater remains a dominant driver of bacteria exceedances under some modeled scenarios, reducing sewage discharges can still produce much larger and meaningful public health, aesthetic, recreational, and equity benefits that are not fully captured by a single modeled compliance statistic.

Projected system-wide hydraulic limitations during large storms warrant further evaluation before concluding that 25-year CSO controls would provide limited benefit.

The conclusion about system-wide failure in the sewer system during large storms is based on the baseline conditions. It is unclear how the proposed alternatives at various LOC (including distributed storage, real-time control, or sewer separation) would impact the capacity throughout the system, as these components could affect how and where the system surcharges.

A more defensible analysis should disaggregate the incremental benefits of CSO control by location, storm size, season, exposure pathway, and affected community, rather than relying only on systemwide or annualized water-quality metrics. The Partners should be expected to explain how much of the remaining impairment is attributable to CSOs during and immediately after wet-weather events; whether additional controls would reduce the frequency, duration, or intensity of sewage-related exceedances at key recreational access points; and how CSO reductions would interact with stormwater, upstream source control, and watershed restoration efforts. The presence of stormwater-related impacts does not diminish the importance of CSO controls. Instead, CSO

mitigation should be implemented as part of a coordinated watershed-wide approach that addresses all significant sources of pollution while eliminating direct sewage inputs to the greatest extent technically and financially practicable.

A clearer analysis of why projected system-wide hydraulic limitations during 25-year storms would preclude meaningful incremental benefits from 25-year CSO controls would provide MassDEP and EPA with better information for evaluating the basis for rejecting higher-control alternatives.

4. The basis for rejecting more ambitious 5-year and 25-year levels of control is not yet fully demonstrated.

The Plan's rationale for rejecting more ambitious 5-year and 25-year levels of control would be better supported by a more complete and transparent alternatives analysis. In particular, the Plan should demonstrate that higher-control alternatives were evaluated using comparable assumptions, that feasible hybrid and distributed approaches were not prematurely screened out, and that the decision-making framework fully accounts for localized public health, equity, construction, operational, and long-term community benefits. Key issues discussed in the subsections below include:

- The record does not demonstrate why hybrid grey infrastructure combinations were excluded at the 5-year and 25-year levels of control; and
- Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk.

<u>No demonstrated basis for excluding hybrid grey infrastructure combinations at the 5-year and 25-year levels of control.</u>

At the 2050 Typical Year level, the Partners developed and tested genuine hybrid combinations of storage, sewer separation, and conveyance (e.g., Alternatives 1–3 for each waterbody). At the 5-year and 25-year levels for 2050, however, this same combination is abandoned in favor of a single consolidated tunnel. The alternatives did not feature or discuss results of a distributed combination of several strategically sited but larger facilities, the same category of solutions that performed well at the lower LOC tier. It is unclear why this scaled-up hybrid approach was not considered before defaulting to a regional tunnel. The Plan should evaluate scalable hybrid options for the 5-year and 25-year alternatives, such as distributed storage, targeted sewer separation, GSI, conveyance improvements, and real-time controls. If this is not included, the plan should clearly justify why those strategies were not more thoroughly evaluated before concluding that higher levels of control are impractical, unaffordable, or not cost-effective.

In follow-up discussion with the project teams during a meeting on July 20, 2026, the project teams explained that the cost and feasibility of sewer separation may differ substantially between

Somerville and Cambridge. In Somerville, particularly within the Alewife subwatershed, topography may require substantial stormwater pumping, making separation more costly and less incremental. In Cambridge, the teams indicated that more incremental sewer separation concepts may be feasible, although storage would still likely be needed as part of any separation-based alternative. The Plan should therefore distinguish more clearly between locations where sewer separation is constrained by topography and pumping requirements and locations where targeted or phased separation could supplement or reduce reliance on storage.

Construction, open-space, and operational impacts are relevant considerations, but the record does not clearly distinguish among mitigable impacts, design constraints, and conditions that create true technical infeasibility or unacceptable risk.

The Plan identifies construction disruption, park and open-space impacts, truck traffic, and operational capacity concerns as reasons to prefer the recommended plan. These impacts are legitimate, but the analysis should distinguish between temporary construction impacts, permanent impacts, mitigable impacts, and impacts that create true technical infeasibility or unacceptable risk. Regulators should require clearer documentation of mitigation options, phasing strategies, alternative alignments, staging approaches, capacity upgrades, and adaptive management measures before dismissing these concerns.

5. The Plan gives limited weight to GSI as a CSO reduction strategy despite recognizing its community co-benefit potential.

The Plan recognizes GSI as a viable CSO reduction strategy with important community co-benefits, but it does not appear to evaluate GSI as a core component of hybrid alternatives across the full range of levels of control. In particular, the Plan should more clearly explain why GSI was paired primarily with tunnel-based alternatives, why it was not more fully integrated with distributed storage, conveyance, sewer separation, and other gray infrastructure options, and how its broader water quality, climate resilience, public health, equity, and neighborhood benefits were considered in the cost-effectiveness analysis. Key issues discussed in the subsections below include:

- The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives; and
- The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI.

The Plan does not demonstrate a sufficient basis for excluding GSI from hybrid non-tunnel alternatives.

GSI is identified as a viable and effective strategy for reducing CSO volumes; however, in the alternative analysis, it is only evaluated in combination with the tunnel alternative (except in the Mystic River case, where it is paired with storage). Rationale for limiting GSI to these high-cost

combinations is unclear. For example, the analysis lacked a detailed breakdown of costs and CSO reduction benefits for GSI when integrated with grey infrastructure options other than tunnels.

During a meeting on July 20, 2026, the project teams stated that GSI was not advanced more broadly in the higher-control alternatives because the modeling did not show GSI as a significant source of CSO volume reduction and, in their view, adding it to 5-year or 25-year storage alternatives would add cost without materially increasing modeled volume-reduction benefit. The Plan should include enough supporting detail to allow reviewers to evaluate that conclusion, including the modeled GSI assumptions, siting constraints, unit costs, estimated volume reduction, and whether GSI was assessed only against CSO volume or also against broader stormwater, heat, habitat, and community co-benefits.

The Plan's cost-effectiveness comparisons do not appear to fully account for the water quality and socioeconomic co-benefits of GSI.

The Partners include a qualitative "Community Co-Benefits" scoring criterion that acknowledges GSI can mitigate urban heat, improve aesthetics, and support habitat and recreation but this benefit is applied during the initial screening of alternatives and this benefit is never translated into a dollar figure. However, the cost-benefit comparison accounts only for CSO volume reduction against capital cost without weighing the water quality improvements, carbon sequestration, urban heat mitigation, stormwater runoff reduction, or neighborhood property and quality-of-life value that a GSI-heavy alternative could provide. Municipal precedent exists for assessing GSI co-benefits during long-term CSO planning. As part of its Long-Term Control Plan, the Philadelphia Water Department used a detailed analysis to assign monetary values to benefits such as water quality improvements, urban heat mitigation, recreation, air quality improvements, carbon reduction, energy savings, and property value enhancement when comparing green and conventional CSO control alternatives[4]. Established economic frameworks such as GSI Impact Calculator[5] could be used to comprehensively quantify the benefits of GSI and systematically compare the GSI-intensive alternatives with some of the grey infrastructures.

During a meeting on July 20, 2026, the project teams did not appear to provide an alternative quantitative benefit metric, such as future gallons of CSO avoided by waterbody and level of control, and indicated that monetizing broader co-benefits would be difficult and potentially speculative. That response does not resolve the underlying concern. If broader benefits are not monetized, the Plan should at minimum provide a transparent qualitative or semi-quantitative comparison showing how additional CSO control and GSI alternatives perform across public health, recreation, resilience, environmental justice, and local economic development criteria.

[4] Philadelphia Water Department. September 2009. *Philadelphia Combined Sewer Overflow Long Term Control Plan Update*. LTCPU_Complete.pdf
[5] Calculator - GSI Impact Hub

6. The alternatives analysis in the plan would be strengthened by sensitivity testing and multi-objective optimization.

The Partners built a comprehensive modeling framework for this Plan, reconciling three previously separate hydraulic models (MWRA, Cambridge, Somerville) into a single Unified Model in InfoWorks ICM and developed a climate-adjusted 2050 Typical Year. This represents a substantial technical undertaking, with extensive supporting documentation in the technical appendices.

However, the modeling approach used in this CSO LTCP follows a reductionist method common in CSO and flood planning: identifying available space for a storage facility, sizing it to the maximum extent feasible, and testing that design in the hydraulic model. This may leave some possibilities unexamined. A sensitivity analysis could help identify the system's most critical choke points, then assess options to develop or acquire space for storage there. While upfront costs might be higher, the cost per gallon of CSO reduced could ultimately be lower.

A broader optimization approach could take this approach further. A multi-objective framework such as Optimatics or similar genetic-algorithm-based tools, could evaluate storage siting/sizing, green stormwater infrastructure (GSI) placement, conveyance, and sewer separation together, and identify combinations that maximize system performance while minimizing cost. This approach was applied for Chicago's Metropolitan Water Reclamation District's Phase II Stormwater Management Pilot Study, where Geosyntec applied an optimization framework that evaluated more than 70,000 alternatives across 5-year, 25-year, and 100-year design storm scenarios. Rather than simply identifying the configuration that eliminates flooding or CSOs, the algorithm searched for the optimal balance between performance and investment cost by explicitly accounting for surcharge reduction, flood reduction, and implementation cost within the objective function, even accepting minor residual flooding where additional benefits did not justify the added investment. The study ultimately found that an optimized combination of green and gray infrastructure achieved nearly the same level of performance as maximum implementation scenarios while reducing costs by more than 40%[6]. The Plan's unified modeling framework would be more persuasive if it were used not only to test predefined alternatives, but also to identify optimized combinations of storage, conveyance, sewer separation, GSI, and real-time controls that may achieve greater CSO reduction at lower cost per gallon.

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[i] Combined Sewer Separation - City of Minneapolis
[ii] Combined Sewer Separation - City of Minneapolis
[iii] Sewer separation, inflow and infiltration reduction efforts are paying off - Metropolitan Council
[iv] $60M overhaul to give downtown Minneapolis stormwater tunnel another century of use - CBS Minnesota
[v] Microsoft Word - Saint Paul Sewer Separation copy 2.docx
[vi] https://metrocouncil.org/News-Events/Wastewater-Water/Newsletters/Sewer-separation,-inflow-and-infiltration-reductio.aspx

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[6] 2016(0317)_MWRD Pilot Study Phase II Report.pdf

[vii] Microsoft Word - Saint Paul Sewer Separation copy 2.docx
[viii] Sewer separation, inflow and infiltration reduction efforts are paying off - Metropolitan Council
[ix] sewer-inpsection-and-condition-assessment-report-june-2026.pdf
[x] https://cwa.atlantawatershed.org/index.php/history-3/
[xi] www.cleanwateratlanta.org
[xii] Atlanta Is Largely in Compliance with Its Combined Sewer Overflow Consent Decree, but Has Not Yet Met All Requirements
[xiii] Atlanta Is Largely in Compliance with Its Combined Sewer Overflow Consent Decree, but Has Not Yet Met All Requirements
[xiv] 5005-25 City of Lansing, Environmental Assessment.pdf
[xv] City of Lansing Wet Weather Control Program Phase II - NTH Consultants
[xvi] City of Lansing Wet Weather Control Program Phase II - NTH Consultants
[xvii] Draft CSO LTCP Report; Table 9-1
[xviii] Sewer System | Boston Water and Sewer Commission
[xix] Draft CSO LTCP Report
[xx] Draft CSO LTCP Report
[xxi] By the Numbers - Metropolitan St. Louis Sewer District
[xxii] Introducing Project Clear - Metropolitan St. Louis Sewer District
[xxiii] Introducing Project Clear - Metropolitan St. Louis Sewer District
[xxiv] St. Louis Clean Water Act Settlement | US EPA
[xxv] In Amsterdam the wastewater is collected in
[xxvi] Municipal sewage tasks
[xxvii] Amsterdam Rainproof
[xxviii] Microsoft Word - GRPA 2016-2021 - Definitieve versie
[xxix] Sewerage | Amended Budget 2025
[xxx] Maintenance of capital goods | Sewerage | Amended Budget 2026
[xxxi] Sewerage | Amended Budget 2025
[xxxii] Maintenance of capital goods | Sewerage | Amended Budget 2026


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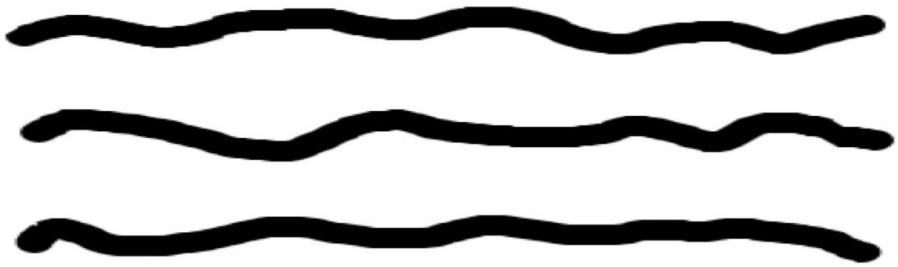




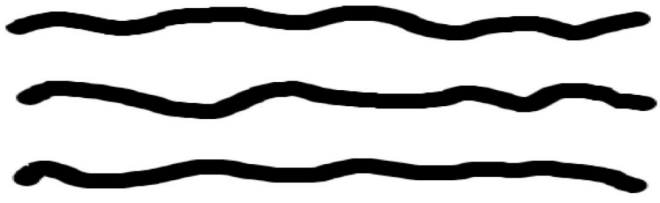
Letters | Charlie Breitrose | July 24, 2026 | 0 Comments | 97 Views

LETTER: MWRA, Keep Your Promise of a Clean Charles River

Letter to the Editor



Letter to the Editor



I don’t know about you, but I love being able to access the Charles River here in Watertown. We have invested a lot in cleaning up our waterways, especially the Charles River and it shows. Many of us remember when you had to get a tetanus shot if you were exposed to the water.

But we have waited a long time (since 1972!) for the MWRA to live up to its promise of a truly swimmable, fishable Charles River.

However, a recent proposal from the MWRA will betray this promise and replace it with certain pollution for many years to come. The main object in the way are the continued Combined Sewerage Overflows (CSOs) that are released into the river whenever we have serious rainstorms. Rainstorms are becoming more severe, dropping large amounts of water at a time and triggering these CSOs.

Right now the Charles is also under a no swimming mandate in some parts because of cyanobacteria in the river (from stormwater phosphorus runoff). A dog died in the river last week due to exposure to cyanobacteria. It's serious stuff, folks. Eliminating CSOs will go a long way in preventing these increasingly frequent blooms.

The Charles River Watershed Association and other river advocacy groups are fighting a recent proposal from the MWRA to walk back their promises to eliminate CSOs with the Cut the Crap program. The cost is only a few dollars per household per month.

The MWRA is taking comments on their retrograde CSO proposal **until July 30**. Please take a few minutes to voice your opposition and advocate for a cleaner, healthier river. Use the following link: https://www.crwa.org/cutthecrap

Thanks,
Marcia Ciro
Watertown Resident

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Charlie Breitrose

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